Introduction

READ THIS BEFORE OPERATING YOUR UNIT

ENGLISH

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Note to CATV System Installer :
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FCC INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FOR YOUR SAFETY

U.S.A CANADA	**120 V**	Units shipped to the U.S.A and Canada are designed for operation on 120 V AC only. Safety precaution with use of a polarized AC plug. However, some products may be supplied with a nonpolarized plug. **CAUTION** : To prevent electric shock, match wide blade of plug to wide slot, fully insert. **ATTENTION** : Pour éviter chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu' au fond.

- Avoid high temperatures. Allow for sufficient heat dispersion when installed on a rack.
- Keep the set free from moisture, water, and dust.
- Do not let foreign objects in the set.
- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Unplug the power cord when not using the set for long periods of time.
- Do not obstruct the ventilation holes.
- Do not let insecticides, benzene, and thinner come in contact with the set.
- Never disassemble or modify the set in any way.

SAFETY INSTRUCTION

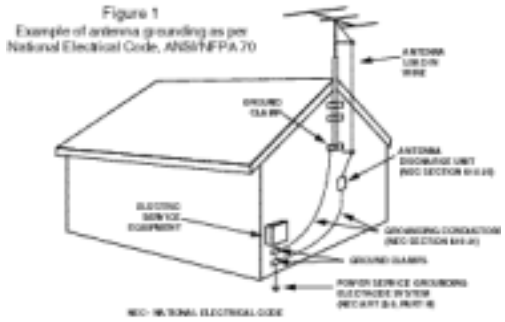
ENGLISH

1. **Read Instructions** - All the safety and operating instructions should be read before the product is operated.
2. **Retain instructions** - The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
4. **Follow Instructions** - All operating and use instructions should be followed.
5. **Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. **Water and Moisture** - Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement, or near a swimming pool; and the like.
8. **Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

PORTABLE CART WARNING

10. **Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. **Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12. **Grounding or Polarization** - This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
    Alternate Warnings - This product is equipped with a three-wire grounding-type plug, a plug having a third(grounding) pin. This plug will only fit into a grounding-type power outlet. this is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
13. **Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
14. **Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

Figure 1
Example of antenna grounding as per National Electrical Code, ANSI/NFPA 70



15. **Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
16. **Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. **Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
18. **Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
19. **Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20. **Damage Requiring Service** - Unplug this product form the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the power-supply cord or plug is damaged,
    b) If liquid has been spilled, or objects have fallen into the product,
    c) If the product has been exposed to rain or water,
    d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
    e) If the product has been dropped or damaged in any way, and
    f) When the product exhibits a distinct change in performance - this indicates a need for service.
21. **Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
22. **Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
23. **Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
24. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

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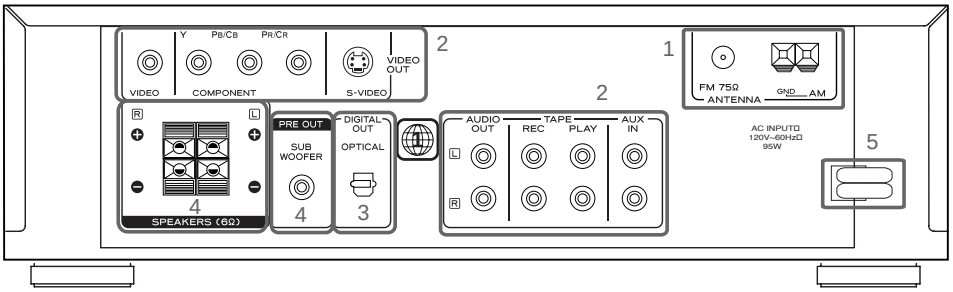
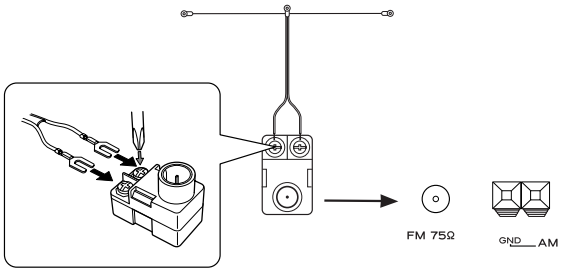
System Connections

- Do not plug the AC input cord into the wall AC outlet until all connections are completed.
- Be sure to observe the color coding when connecting audio and video cords.
- Make connections firmly and correctly. If not, it can cause loss of sound, noise or damage to the unit.
- The supplied cords are a audio cord for subwoofer, a composite video cord and speaker cables only. Other cords are commercially-available cords.



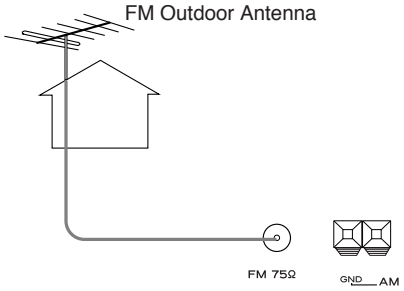
1. CONNECTING ANTENNAs

FM Indoor Antenna

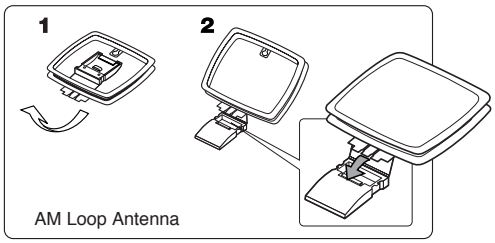


- Change the position of the FM indoor antenna until you get the best reception of your favorite FM stations.

FM Outdoor Antenna

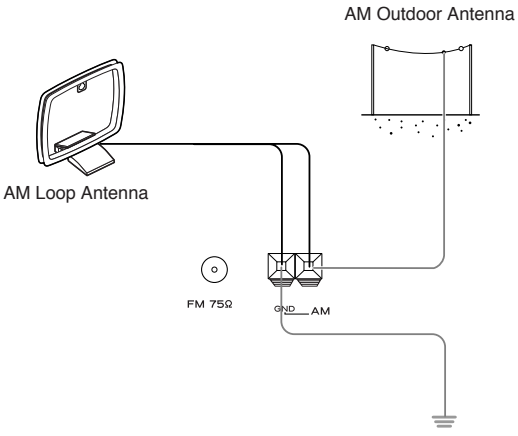


- A 75Ω outdoor FM antenna may be used to further improve the reception. Disconnect the indoor antenna before replacing it with the outdoor one.

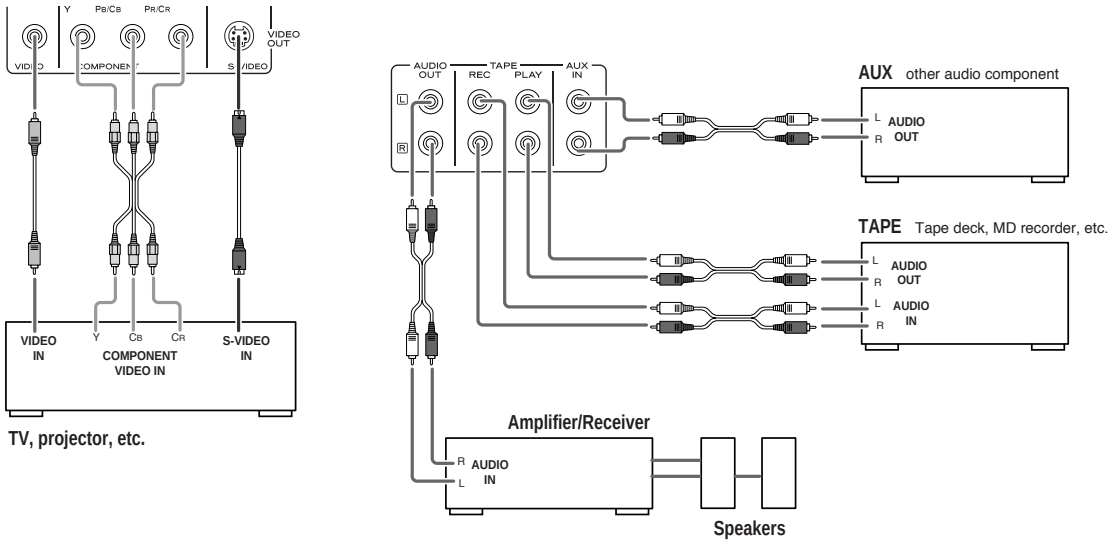


- Place the AM loop antenna as far as possible from the receiver, TV set, speaker cords and the AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used in place of the AM loop antenna.

AM Outdoor Antenna



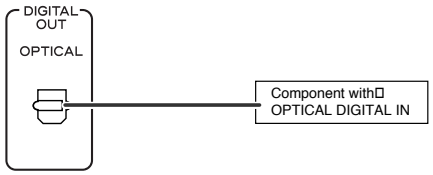
2. CONNECTING AUDIO/VIDEO COMPONENTs



- The AUX IN jacks may be connected to an additional audio component such as a CD player, a tape deck, etc.
- The AUDIO OUT jacks may be connected to an additional amplifier or receiver.
- The COMPONENT VIDEO OUTs of this unit are capable of outputting either conventional interlacing video signal or progressively scanned video signal (that can reproduce high-density pictures with less flicker)
- According to the kinds of VIDEO OUTs, the excellence in picture quality is as follows :
  Progressive “COMPONENT” > Interlaced “COMPONENT” > “S-VIDEO” > “(composite)VIDEO”
- When making COMPONENT VIDEO connections, connect “Y” to “Y”, “P_B/C_B” to “C_B”(or “B-Y”, “P_B”) and “P_R/C_R” to “C_R”(or “R-Y”, “P_R”).
- Depending on the type of the COMPONENT VIDEO INs of your TV, be sure to set the COMPONENT VIDEO OUTPUT to the corresponding setting.(Refer to “CHANGING THE COMPONENT VIDEO OUTPUT SIGNAL” on page 29.)

Notes :
- When the “Progressive” is selected as the video output signal, the S-VIDEO and (composite) VIDEO OUTs cannot output the normal video signals, meaning the picture will not be shown.
- When the progressive video signals are input into non-progressive COMPONENT VIDEO INs of your TV, the picture may not be shown normally, too. Therefore, when the progressive COMPONENT VIDEO INs of TV are not connected to, you should select the “Interlace” as the video output signal.
- Do not connect the unit to the TV through a VCR. Otherwise the picture may be disturbed due to the copy protection function.
- CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF 525 OR 625 PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED THAT THE USER SWITCH THE CONNECTION TO THE “STANDARD DEFINITION” OUTPUT. IF THERE ARE QUESTIONS REGARDING OUR TV SET COMPATIBILITY WITH THIS MODEL 525p AND 625p DVD PLAYER, PLEASE CONTACT OUR CUSTOMER SERVICE CENTER.

3. CONNECTING DIGITAL OUT



- You can enhance the sound quality be connecting this OPTICAL DIGITAL OUT to the OPTICAL DIGITAL IN of an amplifier, MD recorder, etc.
  The digital audio signal from a disc is directly transferred.
  If you connect to a DTS or Dolby Digital decoder, etc. or an amplifier with built-in decoder, you can enjoy theater-quality audio in your home.

continued

Notes :

- To output the digital audio signals, you should set the SPDIF Output to "(SPDIF/) RAW" or "(SPDIF/) PCM" (Refer to "When selecting the SPDIF Output" on page 32.)
- When the DIGITAL OUT of the unit is connected to the DIGITAL IN of an amplifier which does not contain the Dolby Digital or DTS decoder, etc.(which processes the bitstream digital), you should set the SPDIF Output to "(SPDIF/)PCM". If not, loud noise or no sound may be heard from the speakers, and it may be harmful to your ears and damage the speaker.
- Even when the DIGITAL OUT is connected to MD recorder or CD recorder, because digital recording cannot perform properly for the digital audio signals(such as Dolby Digital, DTS bitstream, etc.) other than PCM(2 channel) of 48 or 44.1 kHz, be sure to check the digital audio signal format before digital recording.(For details, refer to the operating instructions of the component connected.)

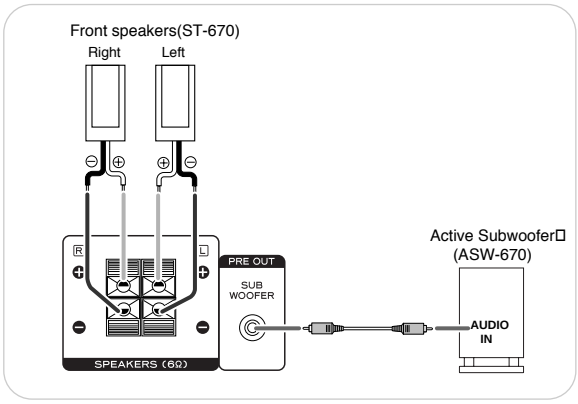
■Audio output from the unit's OPTICAL DIGITAL OUT

Disc	Audio recording format	Audio output
DVD Video	Dolby Digital	Dolby Digital bitstream (2~5.1ch) or PCM(48 kHz/16bit) (2ch) (Note 1)
	DTS	DTS bitstream or PCM(48 kHz/ 16 bit) (2ch) (Note 1)
	MPEG-2	PCM(48 kHz/ 16 bit) (2ch)
	Linear PCM(48/96 kHz, 16/20/24bit)	PCM(48 kHz/ 16 bit)
CD / MP3 disc	Linear PCM	Linear PCM (44.1 kHz)

Note 1 : The type of audio output from the OPTICAL DIGITAL OUT can be selected by the SPDIF output settings.
(Refer to "When selecting the SPDIF Output" on page 32.)

- Linear PCM is a signal recording format used in music CDs. While music CDs are recorded in 44.1 kHz/16 bit, DVD Videos are recorded in 48 kHz/16 bit to 96 kHz/24 bit.
- "DTS" and "DTS 2.0+ Digital Out" are trademarks of Digital Theater Systems, Inc.

4. CONNECTING SPEAKERS

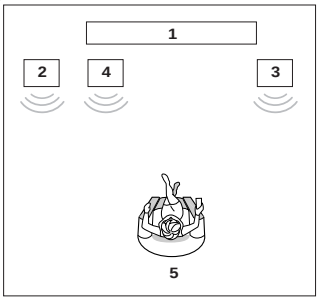


- Be sure to connect speakers firmly and correctly according to the channel(left and right) and the polarity(+and-). If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connection is incorrect, the sound will be unnatural and lack bass.
- Connect the SUBWOOFER PREOUT jack to the active(powered) subwoofer.(For details on the operation of the subwoofer, refer to "OPERATION OF ACTIVE SUBWOOFER" on page 11.)

Caution :

- Be sure to use the speakers with the impedance of 6 ohms or above.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or the speakers

■SPEAKER PLACEMENT



1. TV or screen
2. Front left speaker
3. Front right speaker
4. Subwoofer
5. Listening position

Place the speakers as follows :

- Front speakers: Place the front speakers with their front surfaces as flush with TV or monitor screen as possible.
- Subwoofer: Place the subwoofer any where in the front as desired because the low frequencies it reproduces are non-directional.

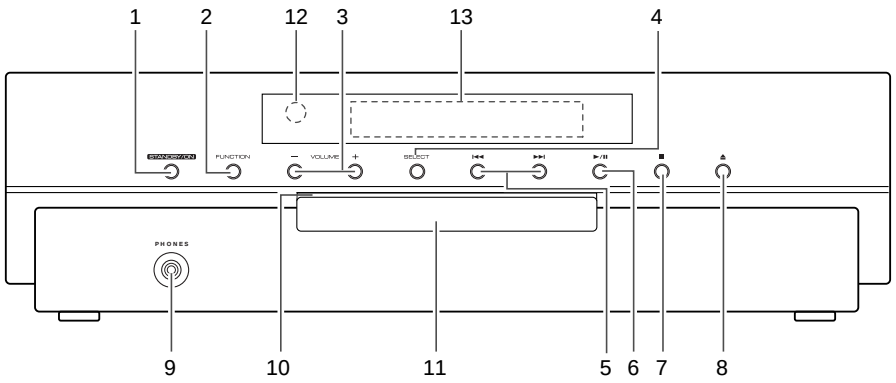
5. AC INPUT CORD

Plug this cord into a wall AC outlet.

Controls & DIsplays

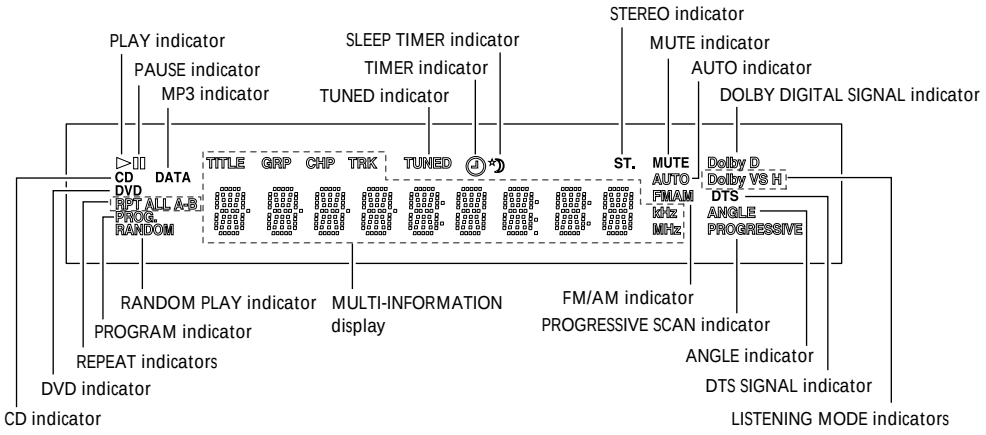
ENGLISH

FRONT PANEL CONTROLS(VR-670)

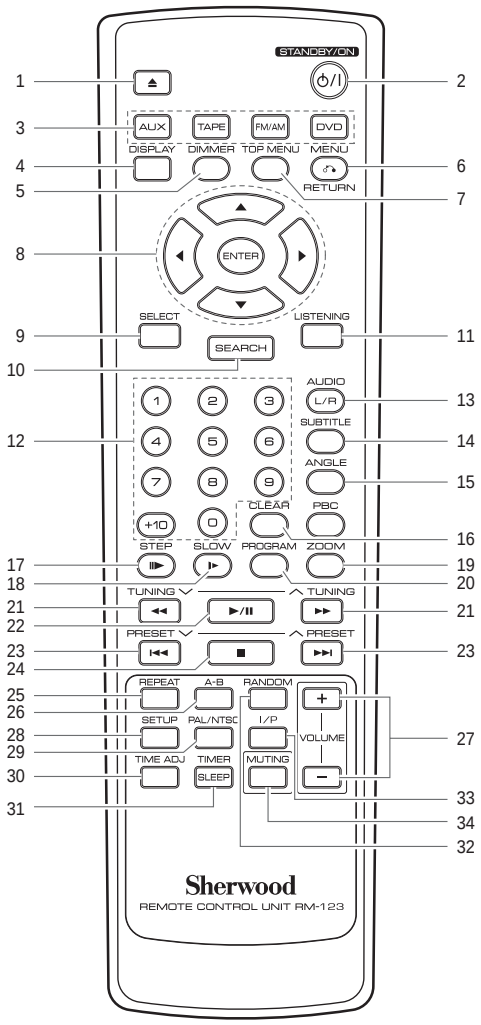


1. POWER button
2. FUNCTION SELECT button
3. VOLUME UP/DOWN (+/-) buttons
4. TONE/BALANCE SELECT button
5. PRESET TUNING UP/DOWN, FORWARD/BACKWARD SKIP(▶▶I/ I◀◀) buttons
6. PLAY/PAUSE(▶/ II) button
7. STOP(■) button
8. OPEN/CLOSE(⏏) button
9. PHONES jack
10. STANDBY indicator
11. DISC TRAY
12. REMOTE SENSOR
13. FLUORESCENT DISPLAY
    • For details, see below.

■FLUORESCENT DISPLAY



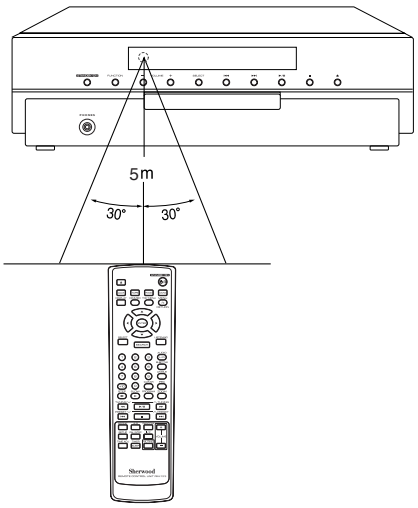
REMOTE CONTROLS



1. OPEN/CLOSE(⏏) button
2. POWER button
3. FUNCTION SELECT buttons
4. DISPLAY button
5. DIMMER button
6. MENU button
7. TOP MENU button
8. CURSOR CONTROL(▲/▼/◀/▶), ENTER buttons
9. TONE/BALANCE SELECT button
10. SEARCH button
11. LISTENING MODE button
12. NUMERIC(0~9, +10) buttons
13. AUDIO button
14. SUBTITLE button
15. ANGLE button
16. CLEAR button
17. STEP(▮▮▶) button
18. SLOW(▮▶) button
19. ZOOM button
20. PROGRAM button
21. TUNING UP/DOWN(∧/∨), FORWARD/BACKWARD SEARCH(▶▶/◀◀) buttons
22. PLAY/PAUSE(▶/❚❚) button
23. PRESET TUNING UP/DOWN(∧/∨) FORWARD/BACKWARD SKIP(▶▶▮/ ▮◀◀) buttons
24. STOP(■) button
25. REPEAT button
26. REPEAT A-B button
27. VOLUME UP/DOWN(+/-) buttons
28. SETUP button
29. PAL/NTSC button
30. TIME ADJUST button
31. SLEEP/TIMER button
32. RANDOM PLAY button
33. INTERLACED/PROGRESSIVE button
34. MUTING button

Note:
• The PBC function is not available for this unit.

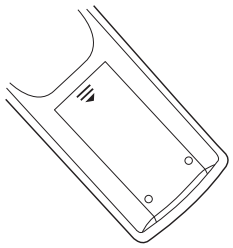
REMOTE CONTROL OPERATION RANGE



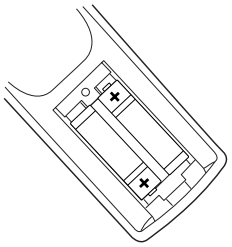
• Use the remote control unit within a range of about 5 meters (16 feet) and angles of up to 30 degrees aiming at the remote sensor.

LOADING BATTERIES

1 Remove the cover.



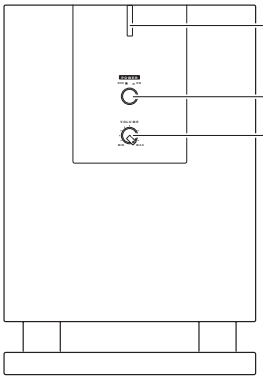
2 Load two batteries (“AAA” size, 1.5V) matching the polarity.



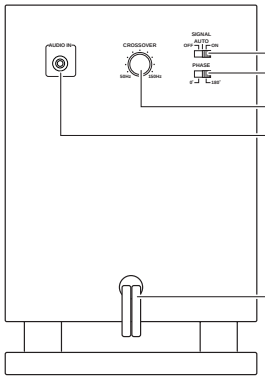
• Remove the batteries when they are not used for a long time.
• Do not use the rechargeable batteries(Ni-Cd type).

ACTIVE SUBWOOFER CONTROLS(ASW-670)

FRONT PANEL



REAR PANEL

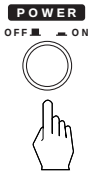

SIGNAL switch
PHASE switch
CROSSOVER FREQUENCY knob
AUDIO IN jack
• Connect this jack to the SUBWOOFER PREOUT jack of the main unit.
AC INPUT cord
• Plug this cord into a wall AC outlet.

OPERATION OF ACTIVE SUBWOOFER

• Before operation of main unit, first set the active subwoofer as desired for optimum performance.

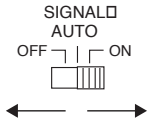
ENGLISH

1 Enter the standby mode.



• The SIGNAL IN indicator lights up in amber.
This means that the subwoofer is not disconnected from the AC mains and a small amount of current is retained to support the operation readiness.
• To switch the power off, push the POWER switch again. Then power is cut off and the SIGNAL IN indicator goes off.

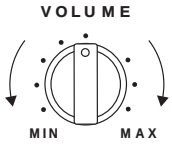
2 In the standby mode, set the SIGNAL switch to the desired power-operation mode.



• Depending on the selected mode the subwoofer is turned on or off as follows :
* ON: The subwoofer is turned on and enters the operating mode.
* AUTO: Only when the signal is being input, it is automatically turned on to enter the operating mode.
If the signal is not input for more than 10 minutes, it will be automatically turned off to enter the standby mode.
* OFF: The subwoofer is turned off and enters the standby mode.

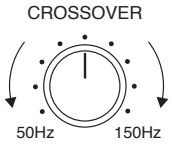
• If the AUTO mode is set to, you need not turn the subwoofer off cumbersomely after every use.

3 While playing any source at the desired listening level on the main unit, adjust the volume balance between this subwoofer and your front speakers.



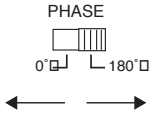
■Notes :
• Extreme high volume setting may damage your subwoofer.
• Once the volume balance between this subwoofer and your front speakers is adjusted, you can adjust the volume of your whole speaker systems by using only the main unit's volume control.

4 Adjust the crossover frequency according to your front speaker's frequency characteristics.



• In case of combination of this subwoofer with the supplied front speakers, because the frequency range of the front speakers is 140Hz~20kHz, adjust the crossover frequency to 140Hz or slightly higher.
* The crossover frequency adjustment determines the highest frequency your subwoofer will reproduce. It allows a seamless transition from subwoofer to front speakers.

5 Set the PHASE switch to the position (0˚ or 180˚)where the optimum bass effect can be obtained.



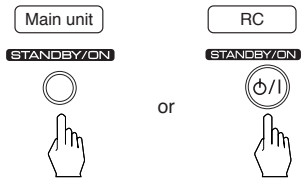
• Normally the PHASE switch is to be set to the "0˚" (normal)position. However, according to your speaker systems or the listening condition, there may be a cause when better sound quality is obtained by setting this switch to the "180˚"(reverse) position. Select the better position by monitoring the sound.

Basic Operation

LISTENING TO A PROGRAM SOURCE

ENGLISH

1 Turn the power on.



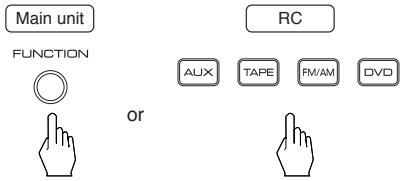
- Each time the POWER button is pressed, the unit is turned on to enter the operating mode(the STANDBY indicator lights up in blue)or off to enter the standby mode(the STANDBY indicator lights up in amber).
- In the standby mode, if the PLAY/PAUSE(▶/❚❚) or OPEN/CLOSE(⏏) button is pressed, the unit can be also turned on.

■Standby mode
This means that the unit is not disconnected from the AC mains and a small amount of current is retained to support the operation readiness.

2 Turn on the supplied active subwoofer and source component for playback.

- For details on operating the supplied active subwoofer, refer to “OPERATION OF ACTIVE SUBWOOFER” on page 11.

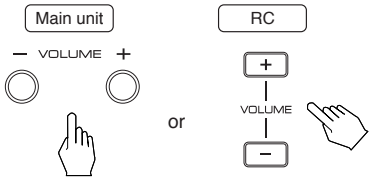
3 Select the desired input source.



- Each time the FUNCTION SELECT button on the front panel, the input source changes as follows :
  → DVD → FM → AM → TAPE → AUX →
  (frequency display)

4 Operate the selected component for playback.

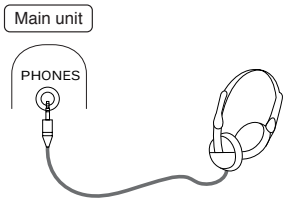
5 Adjust the(overall) volume to a comfortable listening level.



6 To mute the sound.

- “MUTE” flickers.
- To resume the pervious sound level, press the MUTING button again.

7 To listen with the headphones.

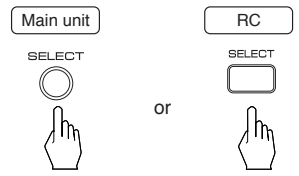


- Then the sound from the speakers is cut off.

Adjusting the tone(bass and treble) and balance

• You can adjust the tone(bass and treble) and the sound volume balance between the left and right speakers as desired.

8 Select the desired mode

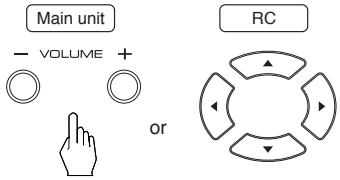


• Each time this button is pressed, the mode changes and is displayed for several seconds as follows :

→ TRBL → BASS → BAL →
(Treble) (Balance)

• When the mode display disappears, press this button again.

9 At the desired mode, adjust it as desired.



• On the remote control, when adjusting the treble or bass, use the CURSOR UP/DOWN(▲/▼) buttons and when adjusting the sound volume balance, use the CURSOR LEFT/RIGHT(◀/▶) buttons.
• To complete the adjustment, repeat the above steps 8 and 9.

■Notes:
• Extreme settings at high volume may damage your speakers.
• In general, we recommend the bass, treble and balance to be adjusted to 0(flat)level.

Selecting a listening mode

• While playing the selected input source

• Each time this button is pressed, the listening mode changes depending on the selected input source as follows :

■In case of selecting DVD

→ (Dolby VS REF → Dolby VS WIDE) or <DOLBY HP> →
STEREO ←

■In case of selecting a input source except DVD

→ (VS REF → VS WIDE) or <HP SOUND> → STEREO →

( ) : Possible only when listening via the speakers.
< > : Possible only when listening via the headphones.

■Listening modes

• Dolby Virtual Speaker
This mode creates a virtual surround sound field as few as two front speakers and subwoofer, allowing you to experience listening from 5.1 channel speakers.
* Dolby Virtual Speaker Reference(“Dolby VS REF”)
The width of the front sound image is defined by the actual distance between front speakers.
* Dolby Virtual Speaker Wide(“Dolby VS WIDE”)
The width of the front sound image seems to extend beyond the front speakers.
• Dolby Headphone(“DOLBY HP”)
This mode simulates 5.1 channel surround sound, which allows you to enjoy 5.1 channel surround sound through 2 channel headphones, just like listening from 5.1 channel speakers.
• Dolby Virtual Speaker and Dolby Headphone modes are effective not only for 5.1 channel sources but also for stereo(2 channel) sources.
Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.
• Virtual Speaker
This mode simulates a virtual 5.1 channel surround sound and includes two listening modes(Virtual Speaker Reference(“VS REF”) and Virtual Speaker Wide(“VS WIDE”) like Dolby Virtual Speaker mode.
• Headphone Sound(“HP SOUND”)
This mode simulates a virtual 5.1 channel surround sound through 2 channel headphones like Dolby Headphone mode.
• The Virtual Speaker and Headphone Sound modes are effective for stereo(2channel) sources only.

Operation of DVD player

ENGLISH

PRELIMINARY KNOWLEDGE ABOUT DISCS

Playable disc types

This unit can play not only the discs bearing any of the following marks but also CD-R/CD-RW discs recorded with Audio CD or MP3 format and DVD-R discs recorded with DVD-Video format.

	DVD VIDEO	CD
Logo mark	DVD VIDEO	COMPACT disc DIGITAL AUDIO
Disc size	3˝ (8 cm) / 5˝ (12 cm)	3˝ (8 cm) / 5˝ (12 cm)
Played sides	One or both	One side only
Contents	Audio + Video	Audio

" DVD VIDEO " is a trademark of DVD Format/Logo Licensing Corporation.

Notes :

- This unit cannot play discs (such as DVD-AUDIO, SACD, CD-ROM, DVD-RW, DVD-RAM, DVD-ROM, etc.) other than those listed above.
  Playing them may generate noise and damage speakers.
- CD-R, CD-RW and DVD-R discs will play only if they are finalized.
- This unit cannot play CD-R, CD-RW and DVD-R discs that include unavailable contents or are recorded in non-standized condition of recording.
- Depending on the disc characteristics or recording condition, etc. some of CD-R, CD-RW and DVD-R discs may not be played properly.
- Depending on the countries, this unit conforms to either the NTSC color system for U.S.A, Canada, etc. or the PAL for Europe, Australia, China, etc.

Notes on DVD Videos

■Region code

- DVD players and DVD Videos have their own Region Code numbers which are assigned to each country or area as shown below. DVD players are set to your Region Code number at the factory. As a result, if the region code number of this DVD player is different from that of the DVD Video, playback of the DVD Video will not be allowed by the DVD player.

Major countries or area	All regions	North America	Europe, Japan, Middle East	Southeast Asia	Oceania, South America	Russia	China
Playable Region code	ALL	1	2	3	4	5	6

Examples of playable DVD Videos :

- In U.S.A: ALL 1
- In Europe: ALL 2

■Markings on the DVD Videos

Mark	Description
ALL	Indicates the region code where the disc can be played.
4	Number of audio languages recorded with multiple audio languages. The number in the mark indicates the number of audio languages. (Up to 8 languages)
2	Number of subtitle languages recorded with the multiple subtitle languages. The number in the mark indicates the number of subtitle languages. (Up to 32 languages)
2	Number of angles recorded from the multiple camera angles. The number in the mark indicates the number of angles. (Up to 9 angles)
16:9 LB	Aspect ratio and TV screen type. "16:9", "4:3", etc. stands for aspect ratio, "LB" for letter box, "PS" for pan-scan, "WIDE" for wide screen.

Notes on copyright

- Please check the copyright laws in your country to record from DVD Video, CD and MP3 disc, etc. Recording of copyrighted material may infringe copyright laws.
- DVD Video discs are protected by the copyguard system, and any recordings made from these discs will be distorted.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

ABOUT MP3 DISCS

This unit can play back MP3 files on a private CD-R/CD-RW disc or commercial CD.

Notes:
- Some discs may not be played back because of the disc characteristics or recording condition, etc.
- Folder and file names are displayed up to 14 characters.
- Characters except “A~Z”, “0~9”, “ - ” may be not displayed correctly.
- The order shown in the menu may not be the same to the order shown in a PC.

Note for making a private MP3 disc using a CD-R/CD-RW disc:
- We recommend to record MP3 files in 44.1 kHz sampling frequency / 128 kbps bit rate.

SYMBOL ABOUT INVALID OPERATION

- When you press a button, if the unit does not accept its operation, ⊘ appears on the TV screen.
  Operations are occasionally unacceptable even if ⊘ is not displayed.

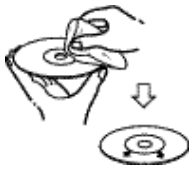
※Invalid operation may occur as expected if :
- The region code number of the unit is different from that of the DVD Video and playback will not be allowed.
- The rating level function works.
  (For details, refer to “When selecting the Parental Control” on page 36.)
- A disc is not playable, etc.

CARE AND HANDLING OF DISCS

- In handling a disc, hold it carefully with edges.

- Do not stick paper or write anything on the printed surface.

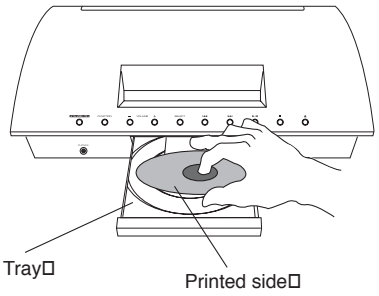
- Fingermarks and dust on the recorded surface should be carefully wiped off with a soft cloth. Wipe straight from the inside to the outside of the disc.



- Always keep the discs in their cases after use to protect them from dust and scratches.

- Do not use a cracked, deformed, or repaired disc.
  These discs are easily broken and may cause serious personal injury and apparatus malfunction.

Notes:
- Because the temperature inside this unit is very high, in case of no further playback of disc, unload the disc to prevent the high temperature from deforming the disc.
- Do not expose discs to direct sunlight, high humidity or high temperature for a long time.
- When loading or unloading a disc in the disc tray, always place it with the printed side up.



DEFINITION OF TERMS

DVD Video
This refers to a high-density optical disc on which high-quality pictures and sound have been recorded by means of digital signals. Incorporating a new video compression technology (MPEG-2) and high-density recording technology. DVD Video enables esthetically pleasing full-motion video to be recorded over long periods of time (for instance, a whole movie can be recorded).
DVD Video has a structure consisting of two 0.6 mm thin discs which are adhered to each other. Since the thinner the disc, the higher the density at which the information can be recorded, a DVD Video has a greater capacity than a single 1.2 mm thick disc. Since the two thin discs are adhered to each other, there is the potential to achieve double-sided play sometime in the future for even longer duration play.

MPEG
MPEG stands for Moving Picture Expert Group. It is regarded as an international standard for compressing and restoring digital video and audio signal. “MPEG” standards include MPEG-1, MPEG-2 and MPEG-4. Video CD and MP3 are based on MPEG-1, while DVD Video is based on MPEG-2.

MP3
MP3 is an audio data reduction format, which stands for MPEG-1 Audio Layer 3. Using MP3, you can achieve a data reduction of about 1:10.

Aspect ratio (DVD Video)
The aspect ratio is the ratio between the vertical and horizontal size of the picture displayed on a TV screen. The aspect ratio of normal TV screen is 4:3 while that of the wide-screen TV and HDTV screen is 16:9.

Subtitle (DVD Video)
Some DVD Videos contain the recording of more than one subtitle languages. With these discs, this unit can select one of the subtitle languages as desired during playback.

Angle (DVD Video)
Some DVD Videos contains scenes which have shot simultaneously from multiple camera angles. With these discs, the same scene can be viewed from each of these different angles.

Interlaced scan
In the conventional video system, a picture is shown on the screen in two halves. The interlaced scanning system places lines of the second half of the picture in-between lines of the first half of the picture.

Progressive scan
Progressive scanning displays all the horizontal lines of a picture at one time, as a single frame.

Composite video
A single video signal commonly used in most consumer video products that contains all luminance, color, and synchronization information.

S-video
A video signal which improves picture quality over the standard composite video signal.

Component video
Video signals with three channels of separate information that makes up the picture. There are some types of component video, such as Y/CB(Pb)/CR(Pr) and R/G/B.

Bitstream
The digital signal form of multichannel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

Linear PCM
PCM stands for Pulse Code Modulation. Linear PCM is the usual digital method without compression, used for audio playback of audio CDs, DVD Videos, etc.

Title, Title number (DVD Video)
The title is the largest unit of the video/audio recording in DVD Videos. Usually, the title corresponds to a movie of video software or an album (or a piece) of music software. Title numbers are sequential numbers assigned to titles.

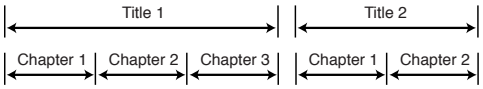
Chapter, Chapter number (DVD Video)
Chapters are divisions, which are smaller than the titles, of the contents recorded on DVD Videos. Every title is composed of more than one chapter. Chapter numbers are the sequential numbers assigned to the chapters in a DVD Video.

Track number (CD)
Track numbers are used to designate the various sections of a disc.

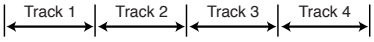
Folder (MP3 disc)
Folder is the largest unit of the contents recorded on MP3 discs.

File (MP3 disc)
Each material (song) is recorded on a file.
Files may be grouped into a folder by artist, album, category, etc.

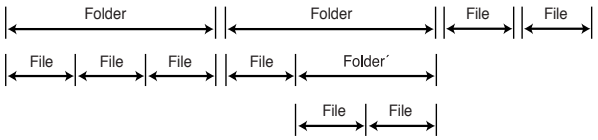
• DVD Video structure



• CD structure



• MP3 disc structure
On an MP3 disc, a folder can be a member of another folder, creating hierarchical folder layers. If you are familiar with a personal computer, you may easily understand the hierarchical file/folder construction.



ENGLISH

■Before starting playback

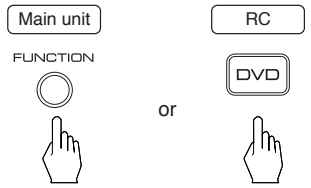
For your convenience, the OSD(On-Screen-Display) language of this unit may be set to English as initial setting. If you want to change the OSD language to French, Italian, German, etc., please refer to “When selecting the OSD Language” on page 32.

BASIC PLAYBACK

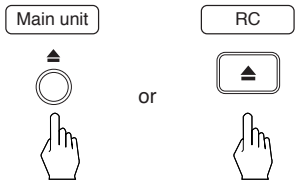
■Preparations

- Turn on the TV and select the video input source connected to the unit.
- Set the TV screen type and the COMPONENT VIDEO OUTPUT SIGNAL correctly to match your TV.(Refer to “When selecting the TV Display” on page 31 and “CHANGING THE COMPONENT VIDEO OUTPUT SIGNAL” on page 29.)

1 Select DVD as input source.



2 Open the disc tray to load a disc with the printed side up, then close it.



- 8 cm (3 inch) discs can be loaded on the inside circle of the tray, too.
- When a CD or DVD that doesn’t contain any menu is loaded, playback automatically starts.

■Note :

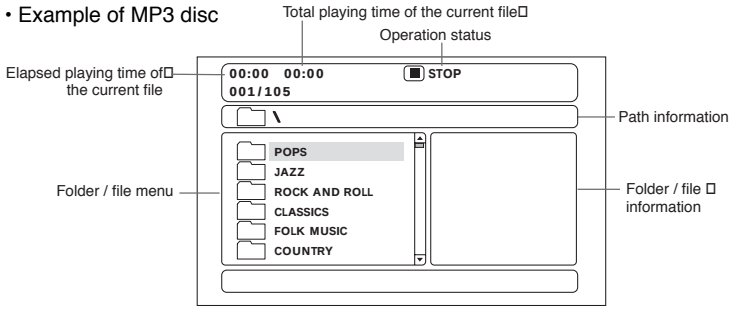
- Opening or closing the disc tray by force may damage it’s mechanism.

■Note :

- When you play a DVD Video that contains a menu or a MP3 disc, the menu display may appear on the TV screen. In this case, see “To start playback from the menu of DVD Video” below or “To start playback from the menu of MP3 disc” on the next page.

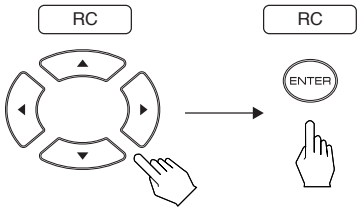
• Example of DVD Video

• Example of MP3 disc



To start playback from the menu of DVD Video

- Press the CURSOR ▲/▼/◄/► buttons to select the preferred item and press the ENTER button (or PLAY/PAUSE(►/II) button).



- Playback of the selected item starts.
- When the selected item contains the subitems, repeat the above step until the preferred item is selected,

■To stop playback and return to the menu display

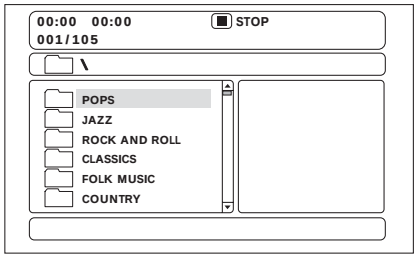
- Press the TOP MENU or MENU button on the remote control.(Which button is pressed differs depending on the discs.)
- Playback is suspended and the menu display appears.

To start playback from the menu of MP3 disc

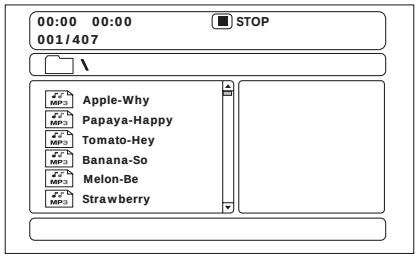
1 In the stop mode, select the desired list mode.

- Each time this button is pressed, the list mode changes as follows:
  Folder list mode : It displays the folder/file structure as they were recorded.
  ↕
  File list mode : It displays all the files on a disc, ignoring the folders in which they belong.

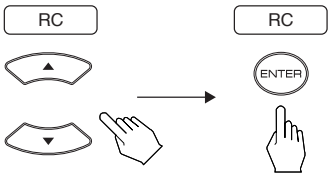
- Example of folder list mode



- Example of file list mode



2 Press the CURSOR ▲/▼ buttons to select the preferred folder or file, then press the ENTER button.

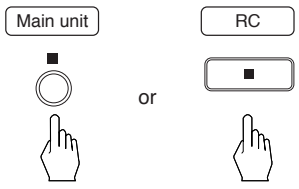


- When selecting the preferred file, playback starts from the selected file.
- In the folder list mode, when selecting the preferred folder, the file menu screen of the selected folder is displayed. In this case, repeat this step to select the preferred file in its file menu.
- Each time the FORWARD SKIP(▶▶❙) or BACKWARD SKIP(❙◀◀) button is pressed, the next or previous folder/file menu is skipped to.

Notes :

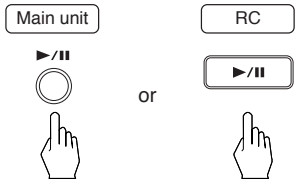
- Depending on the MP3 disc and the condition of recording, some of MP3 discs may not be played or may be played differently.
- The DVD Videos continues to rotate while the menu display appears. When no further selections are to be played, be sure to press the STOP(■) button repeatedly to enter the stop mode and to clear the menu display.
- A TV screen may be burned out if a static picture is displayed for a long time in the stop or the pause mode, etc.. To prevent this, set the Screen Saver to ON (refer to "When selecting the Screen Saver" on page 32). Then, the unit automatically activates the screen saver function if a static picture, etc. is displayed for over 5 minutes.
  Pressing any button will cancel the screen saver function and return to the previous display.
- When you press a button, if the corresponding operation is prohibited by the unit or the disc, ⊘ appears on your TV screen.

To stop playback



- When playback of DVD Video is stopped, the unit memorizes the point where the STOP(■) button was pressed(RESUME function: DVD Video only).
  ("R-STOP" is displayed on the unit's display when this function is activated.)
  Press the PLAY/PAUSE(▶/❚❚) button again, and playback will resume from that point. When the STOP(■) button is pressed again, the RESUME function will be canceled and it enters stop mode.("STOP" is displayed.)
- In case that the Last Memory is set to ON, during playback of DVD Video, even when selection of the input source changes from DVD input source or the unit is turned off, the resume function is activated, too.(Refer to "When selecting the Last Memory" on page 33.)
- When about 20 minutes elapses in the stop mode, etc., the power is automatically turned off and it enters standby mode.(Auto power-off function)

To pause playback



- DVD Video :
  The unit will be in the still picture mode.
- CD/MP3 disc :
  The unit will be in the pause mode.
- To return to normal playback, press the PLAY/PAUSE(►/II) button.

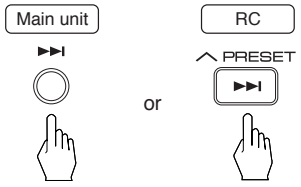
Frame advance playback [DVD Video only]

- During playback or in the still picture mode.

- Each time the STEP(I►) button is pressed, the disc is advanced by one frame.
- To return to normal playback, press the PLAY/PAUSE(►/II) button.

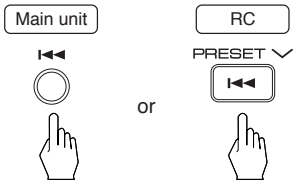
To skip ahead or back during playback

- To skip ahead



- Each time the button is pressed, a chapter/track on a DVD Video/CD is skipped.
- In case of MP3 disc, each time the FORWARD SKIP(►►I) or BACKWARD SKIP(I◄◄) button is pressed, the next or previous folder/file menu is skipped to.

- To skip back



- When the button is pressed once midway through a chapter/track, playback returns to the beginning of that chapter/track. When it is pressed again, a chapter/track is skipped.

- You can select a track/file on a CD/MP3 disc directly with pressing the NUMERIC buttons.

■In case of CD, press the corresponding NUMERIC buttons(0~9, +10), then the selected track will be played.

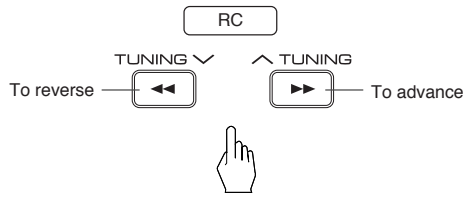
Examples) For "3" : (3)
For "10" : (+10) → (0)
For "21" : (+10) → (+10) → (1)

■In case of MP3 disc, press the corresponding NUMERIC buttons(0~9) and press the ENTER button, then the selected file will be played.

Examples) For "3" : (3) → (ENTER)
For "10" : (1) → (0) → (ENTER)
For "21" : (2) → (1) → (ENTER)

- In case of MP3 disc, when the folder list mode is selected, you can select a file in the current folder only.

Rapid playback during playback



• Each time the button is pressed, the disc is advanced or reversed fast at 5 step speed.

→ X 2 → X 4 → X 8 → X 16 → X 32 → Off
(normal playback)

• To return to normal playback, press the PLAY/PAUSE (▶ / ⏸) button.

Slow playback during playback[DVD Video only]

• Each time the button is pressed, the disc is advanced or reversed slowly at 4 step speed.

› SF X 1/2 › SF X 1/4 › SF X 1/8 › SF X 1/16
Off ‹ SR X 1/16 ‹ SR X 1/8 ‹ SR X 1/4 ‹ SR X 1/2 ‹
(normal playback)

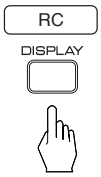
* SF: Slow advance playback, SR : Slow reverse playback

• To return to normal playback, press the PLAY/PAUSE (▶ / ⏸) button.

DISPLAYING DISC INFORMATION DURING PLAYBACK

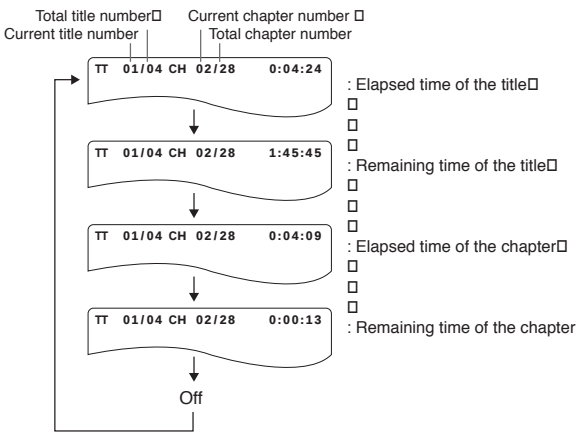
• The unit features the on-screen display function showing disc information (title/chapter/track number, elapsed/ remaining time, etc.).

• Press the DISPLAY button.

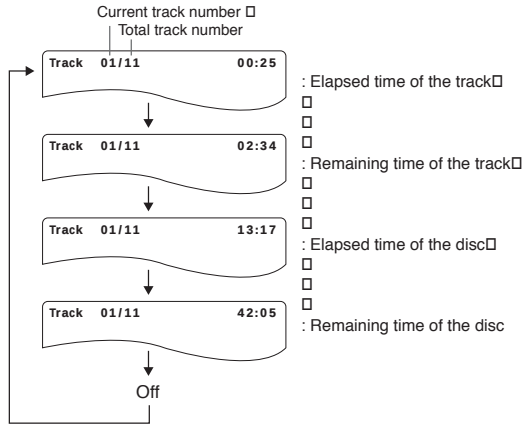


• Then the disc information is displayed on the TV screen.
• Each time this button is pressed, the disc information is changed depending on the kinds of discs as follows :

DVD Video


Total title number
Current title number
Current chapter number
Total chapter number
TT 01/04 CH 02/28 0:04:24
: Elapsed time of the title
TT 01/04 CH 02/28 1:45:45
: Remaining time of the title
TT 01/04 CH 02/28 0:04:09
: Elapsed time of the chapter
TT 01/04 CH 02/28 0:00:13
: Remaining time of the chapter
Off

CD



• Depending on the disc and some operation status as playback of DVD Video using a title or DVD menu, etc., the disc information may not be displayed.

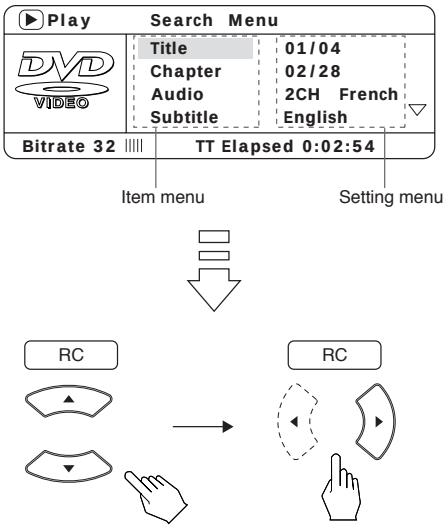
ENGLISH

In case of DVD Video

1 During playback, press the SEARCH button.

- Then the search menu is displayed on the TV screen for several seconds.
- To cancel the search function, press the SEARCH button.

2 While displaying the search menu, press the CURSOR ▲/▼ buttons to select the desired item, then press the CURSOR ▶ button to select its setting menu.



- Each time the CURSOR ▲ or ▼ button is pressed, the item is selected as follows :
  - › "Title~" : Title search mode
  - ↕
  - "Chapter~" : Chapter search mode
  - ↕
  - "Audio~" : Audio language setting mode (For details, "CHANGING THE AUDIO LANGUAGE [DVD Video only]" on page 27)
  - ↕
  - "Subtitle~" : Subtitle language setting mode(For details, "CHANGING THE SUBTITLE LANGUAGE [DVD Video only]" on page 27)
  - ↕
  - "Angle~" : Angle search mode(For details, "CHANGING THE CAMERA ANGLE [DVD Video only]" on page 28)
  - ↕
  - "TT Time~" : Title time search mode
  - ↕
  - "CH Time~" : Chapter time search mode
  - ↕
  - "Repeat~" : Repeat setting mode(For details, "REPEAT PLAYBACK" on page 24.)
  - ↕
  - › "Time Disp.~" : Time display setting mode(For details, "DISPLAYING DISC INFORMATION DURING PLAYBACK" on page 20)
- Each time the CURSOR ▶ or ◀ button is pressed, the setting menu or the item menu is selected.

■When selecting a search mode

3 Select the section to be played with the NUMERIC buttons.

◆When entering the title or chapter number

Examples) For "3" : 0 → 3 or 3 → ENTER

For "12" : 1 → 2

◆When entering the elapsed time of the title or the chapter

You can play a disc from the desired point by specifying the elapsed time from the beginning of the current title or the current chapter.

Examples) For "3 min. 15 sec." :

0 → 0 → 3 → 1 → 5

For "2 hou. 59 min. 35 sec." :

2 → 5 → 9 → 3 → 5

◆When entering the angle number

Example) For "2" : 2

◆When clearing the numbers entered before playback

- Then the numbers are all cleared.

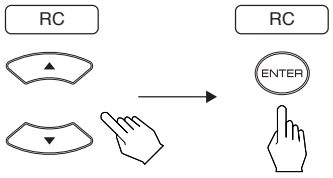
■Note:

- Depending on the disc, a search playback will not work or may work differently.

Continued

■When selecting a setting mode

3 Press the CURSOR ▲/▼ buttons to select the preferred setting, then press the ENTER button.

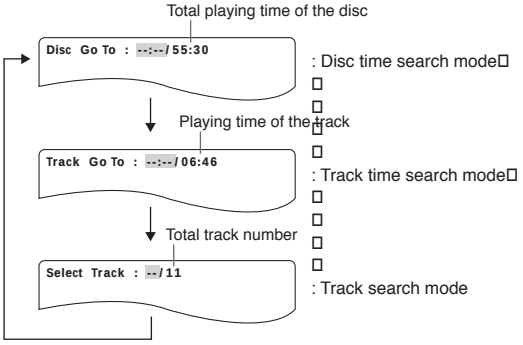


In case of CD or MP3 disc

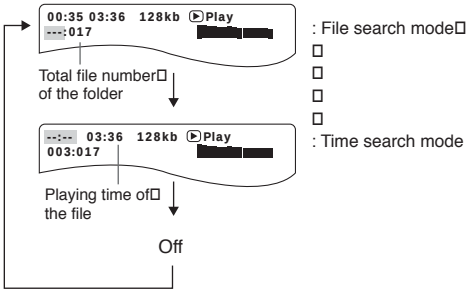
1 During playback, press the SEARCH button.

- Then the search mode is displayed on the TV screen for several seconds depending on the kinds of discs.
- Each time the SEARCH button is pressed, the search mode change as follows :

CD


Total playing time of the disc
Disc Go To : --:--/ 55:30
: Disc time search mode
Playing time of the track
Track Go To : --:--/ 06:46
: Track time search mode
Total track number
Select Track : --/ 11
: Track search mode

MP3 disc



2 Select the section to be played with the NUMERIC buttons.

■When entering the track number

Examples) For “3” : (3)

For “11” : (+10) → (1)

■When entering the elapsed time

You can play a disc from the desired point by specifying the elapsed time from the beginning of the disc(for disc time search mode) or the current track/file (for track/file search mode).

Examples) For “3 min. 15 sec.” :

(0) → (3) → (1) → (5)

For “53 min. 25 sec.” :

(5) → (3) → (2) → (5)

■When entering the file number

Examples) For “3” : (0) → (0) → (3) or (3) → (ENTER)

For “11” : (0) → (1) → (1) or (1) → (1) → (ENTER)

■When clearing the numbers entered before playback

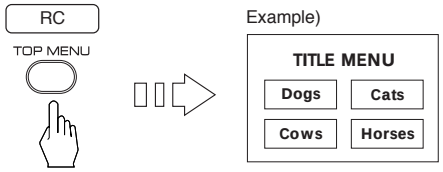
- Each time the CLEAR button is pressed, the numbers entered are cleared one by one in the opposite order.

PLAYING A SPECIFIC ITEM [DVD Video only]

When using a title menu

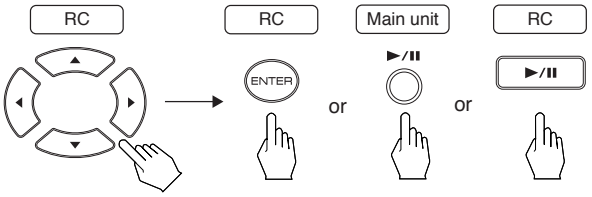
• If some DVD Videos which contain more than one title may have the menu like as a list of the titles, the TITLE button can be used to select the desired title. (The details of operation differ depending on the disc used.)

1 During playback, press the TOP MENU button.



• Then a list of titles on the disc is displayed on TV screen.
• If the disc does not have the menu such as a list of titles, this function does not work.

2 Press the CURSOR ▲/▼/◀/▶ buttons to select the desired title, then press the ENTER or PLAY/PAUSE(▶/ ❚❚) button.

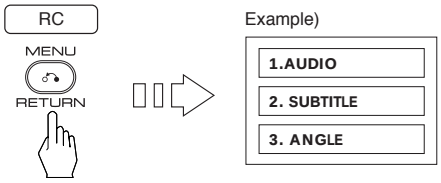


• The unit starts playback of the selected title.
• When the menu continues onto another screen, repeat this step until the desired title is selected.

When using a DVD menu

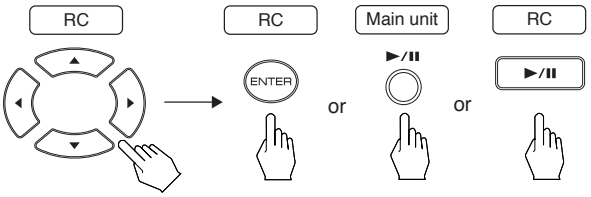
• Some DVD Videos have unique menu structures called DVD menus. For example, the discs programmed with complex contents provide guide menus, and those recorded with various languages provide menus for audio and subtitle language. Although the DVD menu's contents and operation differ from disc to disc, the following explains basic operation when this feature is used.

1 During playback, press the MENU button.



• Then the DVD menu available on the disc is displayed on TV screen.
• If the disc does not have the DVD menu, this function does not work.

2 Press the CURSOR ▲/▼/◀/▶ buttons to select the desired item, then press the ENTER or PLAY/PAUSE(▶/ ❚❚) button.



• The unit starts playback of the selected item.
• When the menu continues onto another screen, repeat this step until the desired item is selected.

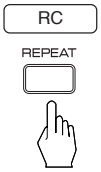
REPEAT PLAYBACK

• You can play a current title, chapter, folder, track, file, disc or part, etc. repeatedly.(Title repeat, chapter repeat, folder repeat, track repeat, file repeat, 1 disc repeat, repeat A-B, etc.)

Note :
• The repeat playback may not work correctly on some DVD Videos and MP3 discs.

Repeating a disc, title, chapter, folder, track or file

• During playback of the desired title, chapter, folder, track or file, press the REPEAT button.



• Then the selected repeat mode is displayed on the TV screen.

• Each time this button is pressed, the repeat mode changes depending on the disc as follows :

DVD Video

Chapter → : Chapter repeat →
Title → : Title repeat →
Off : Repeat mode off →
(normal playback)

CD

Track → : Track repeat →
All → : Disc repeat →
Off : Repeat mode off →
(normal playback)

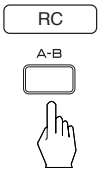
MP3 disc

Repaet One → : File repeat →
Repeat Folder → : Folder repeat →
(In the file list mode, all file repeat) →
Folder : Repeat mode off →
(normal playback of a folder or files)

• To return to normal playback, press the REPEAT button repeatedly to select the repeat mode off.

Repeating the desired part

1 During playback at the beginning of the part you want to repeat, press the REPEAT A-B button.



• Then “A - ” is displayed on the TV screen.

2 At the end of the part, press the REPEAT A-B button again.

• Then “A-B” is displayed on the TV screen, and the part between points A and B is played back repeatedly.
• To return to normal playback, press the REPEAT A-B button again during repeat A-B playback.

Notes :
• You may not use the repeat A-B playback of the part that includes multiple camera angles.
• Repeat A-B playback works only within a title,track or file.

PLAYING TRACKS IN RANDOM ORDER[CD only]

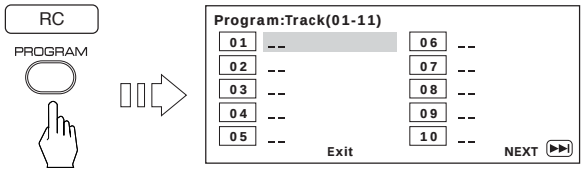
During playback, press the RANDOM PLAY button.

- "RANDOM" indicator and "R-" light up and the tracks are played in random order.
- To return to normal playback, press the RANDOM PLAY button again.
- After all the tracks have been played, it enters stop mode and the random play mode is canceled.

PLAYING TRACKS IN DESIRED ORDER [CD only]

- Up to 20 tracks can be programmed to be played in any desired order.

1 Press the PROGRAM button.

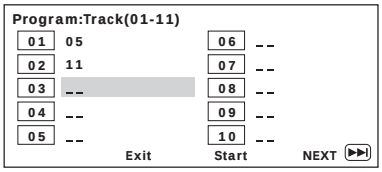


- Then the program menu is displayed on the TV screen for several seconds.
- Each time the PROGRAM button is pressed, the program mode is canceled or the program menu is displayed.

2 While displaying the program menu, select the desired track with pressing the NUMERIC buttons.

Example) When the track 5 and 11 are programmed.

- For "5" : 5
  For "11" : +10 → 1

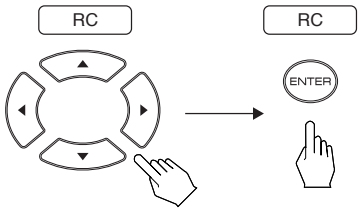


- If the program menu disappears during programming, the program mode will be canceled and the programmed tracks will be all cleared.

3 Repeat the above step 2 until the desired tracks are programmed.

- When programming more than 10 tracks, press the CURSOR ▲/▼/◀/▶ buttons to select the "NEXT ⏭" on the bottom of the program menu, then press the ENTER button.
  Note: During programming, only the buttons required for programming of DVD operation buttons will function.

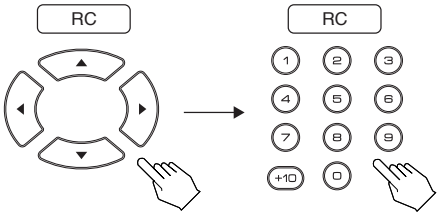
4 To start program play, press the CURSOR ▲/▼/◀/▶ buttons to select the "Start" on the bottom of the program menu, then press the ENTER button.



- Play will start in the programmed order.
- After all the programmed tracks have been played, it enters the stop mode and the program mode is canceled.

■Rectifying any wrong programmed tracks.

• During programming, press the CURSOR ▲/▼/◀/▶ buttons to select the wrong programmed tracks, then select the desired track with pressing the NUMERIC buttons.

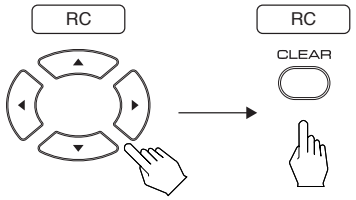


• The new track will be programmed in its place.

■Clearing the programmed tracks

[To clear one by one]

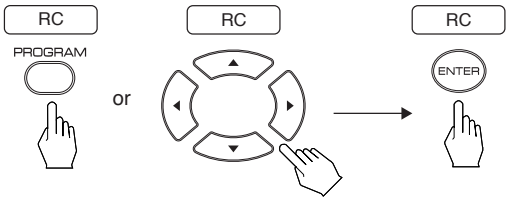
• During programming, press the CURSOR ▲/▼/◀/▶ buttons to select the tracks to be cleared, then press the CLEAR button.



• Then the selected track is cleared.

[To clear all programmed tracks]

• During programming, press the PROGRAM button, or press the CURSOR ▲/▼/◀/▶ buttons to select the “Exit” on the bottom of the program menu, then press the ENTER button.



• Then the programmed tracks are all cleared.
• Opening the disc tray or selecting an input source, etc. clears all programmed tracks.

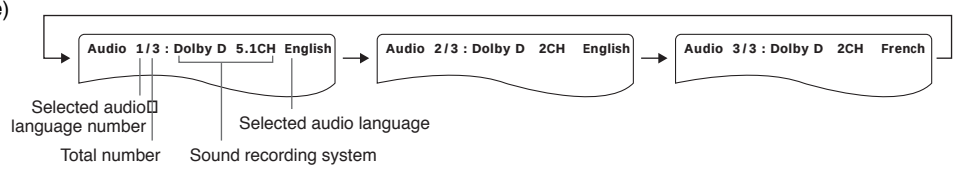
CHANGING THE AUDIO LANGUAGE [DVD Video only]

• It is possible to change the audio language to a different language from the one selected at the initial settings.
(For details, refer to "When selecting the Audio, Subtitle or Disc Menu" on page 35.)
This operation works only with DVD Videos on which multiple audio languages are recorded.

• During playback, press the AUDIO button.

• Then the audio language menu is displayed on the TV screen for several seconds.

• Each time this button is pressed, the audio language changes as follows:
Example)

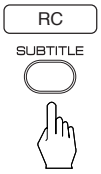

Audio 1/3 : Dolby D 5.1CH English
Audio 2/3 : Dolby D 2CH English
Audio 3/3 : Dolby D 2CH French
Selected audio language number
Total number
Selected audio language
Sound recording system

Notes:
• You cannot select the preferred audio language when the disc contains only one.
• When the disc is changed, etc., the language heard is the one selected at the initial settings. If this is not recorded on the disc, only the available language on the disc will be heard.
• On some discs, an audio language except the selected one at the initial settings may be heard.

CHANGING THE SUBTITLE LANGUAGE [DVD Video only]

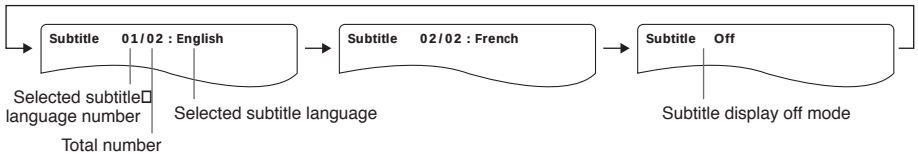
• It is possible to change the subtitle language to a different language from the selected one at the initial settings.
(For details, refer to "When selecting the Audio, Subtitle or Disc Menu" on page 35.)
This operation works only with discs on which multiple subtitle languages are recorded.

• During playback, press the SUBTITLE button



• Then the subtitle language menu is displayed on the TV screen for several seconds.

• Each time this button is pressed, the subtitle language changes as follows:
Example)

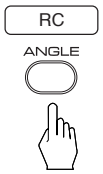


Notes :
• You cannot select the preferred subtitle language when the disc does not contain the available language.
• When the disc is changed,etc., the displayed language is the selected one at the initial settings. If this is not recorded on the disc, the available language on the disc may be displayed.
• On some discs, a subtitle language except the selected one at the initial settings may be displayed.
• When a disc supporting the closed caption is played, the subtitle and the closed caption may overlap each other on the TV screen. In this case, turn off the display of subtitle language.

CHANGING THE CAMERA ANGLE [DVD Video only]

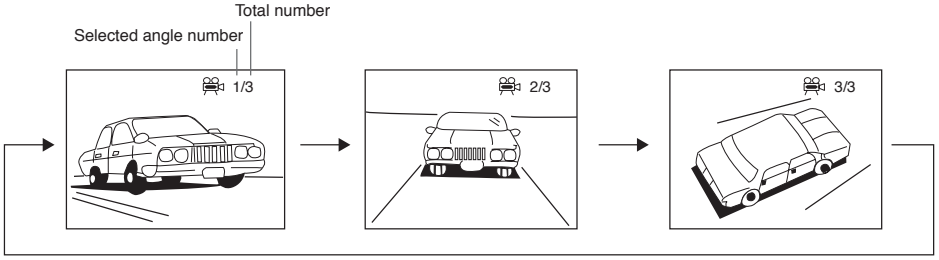
• Some DVD Videos contain scenes which have been shot simultaneously from multiple camera angles. For these discs, the same scene can be viewed from each of these different angles.
• The recorded angles differ depending on the disc used.

• During playback at the scene recorded from multiple camera angles, press the ANGLE button.



• During playback at the scene recorded from multiple camera angles, the angle symbol( ) is displayed on the TV screen only when the ANGLE MARK is set to ON.(Refer to "When selecting the ANGLE MARK" on page 31.)

• Each time this button is pressed, the angle changes as follows:
Example)



Note :
• This function works only at scenes recorded from multiple angles.

ZOOMING IN/OUT A SCENE [DVD Video only]

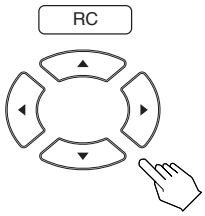
• In the zoom-in mode only, you can select and view any part of the scene close-up.

1 During playback or in the still picture mode, press the ZOOM button.

• The unit zooms in to the center part of the scene or zooms out the scene depending on the selected zoom mode.
• Each time this button is pressed, zoom scale changes as follows:

→ X 2 → X 3 → X 4 → X 1/2 → X 1/3 → X 1/4 → off
(zoom-in mode) (zoom-out mode) (zoom playback off mode)

2 Only while zooming in a scene, press the CURSOR ▲/▼/◀/▶ buttons to select and to view the desired part of the scene close-up.



• To return to the previous operation status, press the ZOOM button repeatedly until the zoom playback is canceled.

Note:
• Depending on some operation status such as playback of DVD Video by using a title or DVD menu, etc., the zoom playback does not work.

CHANGING THE VIDEO SIGNAL FORMAT

• Depending on the countries, this DVD player conforms to either the NTSC color system for U.S.A, Canada, etc., or the PAL for Europe, Australia, China, etc.
If the color system of this DVD player is different from that of your TV monitor and the discs to be played, the screen may be somewhat hard to see or the picture quality may be poor.
Only in this case, change the video signal format to another.
(For details about the video signal format of your TV monitor or the discs, refer to the operating instruction of your TV or the disc's jacket.)
• You can set the video signal format to the desired at initial settings, too.
(For details, refer to "When selecting the TV Type" on page 31.)

• In the stop mode, press the PAL/NPSC button.

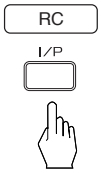
• Each time this button is pressed, the video signal format changes as follows:
NTSC ↔ PAL

CHANGING THE COMPONENT VIDEO OUTPUT SIGNAL

• Only during playback of DVD Video on this unit, the COMPONENT VIDEO OUTs of this unit can be capable of outputting either conventional interlacing video signal or progressively scanned video signal (that can reproduce high-density pictures with less flicker).
• When the COMPONENT VIDEO OUTs of this unit are connected to the COMPONENT VIDEO INs of TV or projector, etc., depending on whether the video signal system of your TV or projector, etc. supports the conventional interlacing(simply called interlaced) video signals or the progressively scanned(simply called progressive) video signals(that can reproduce high-density pictures with less flicker), you should select the corresponding video signal.

Notes:
• When you select the "Progressive", the S-VIDEO and (composite) VIDEO OUTs of this unit cannot output the normal video signals, meaning the picture will not be shown.
• When the progressive video signals are input into the non-progressive COMPONENT VIDEO INs of your TV, etc., the picture may not be shown normally.
Therefore, when the progressive COMPONENT VIDEO INs of TV are not connected to, you should select "Interlace".

• In the stop mode, press the PROGRESSIVE SCAN button.



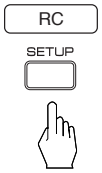
• Each time this button is pressed, the component video output signal changes and "Interlace" or "Progressive" is displayed on the TV screen.

Initial Settings

The initial settings of the unit at the factory can be modified as desired later.
Even after the power of the unit is switched to the standby mode, the initial settings are stored in memory until it is changed the next time.

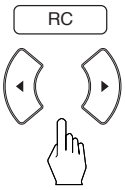
ENGLISH

1 In the stop mode, press the SETUP button to enter the setup mode.

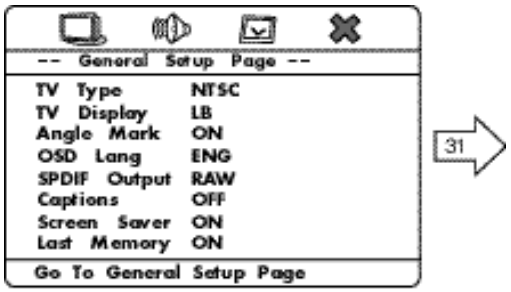


- The general setup menu appears on the TV screen.
- To exit from the setup mode, press the SETUP button, or press the CURSOR ◄/► buttons to select “Exit Setup Menu” and press the ENTER button.
- When the disc tray is open, you can enter the setup mode.

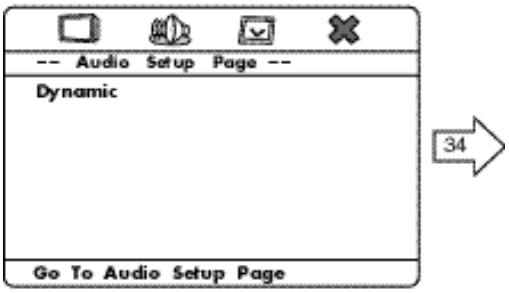
2 Press the CURSOR ◄/► buttons to select a setting category.



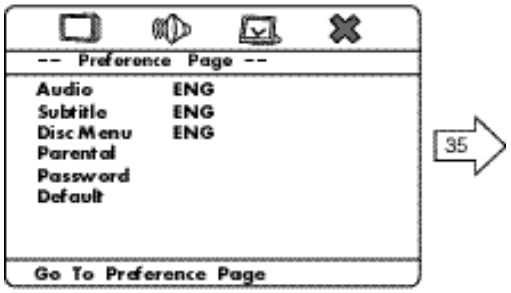
■When selecting the General Setup



■When selecting the Audio Setup



■When selecting the Preference

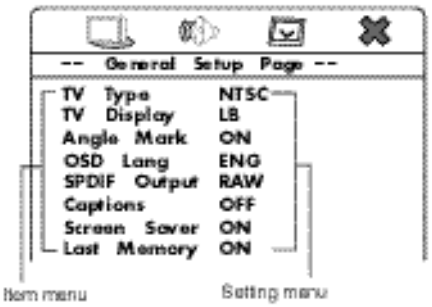


■When selecting the Exit Setup

- When selecting the Exit Setup to exit from the setup mode, press the ENTER button.

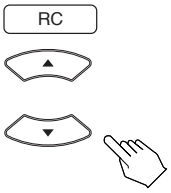
• For the setting details, see page in ⇨.

Note :
• During setting operation, only the buttons required for setting of DVD operation buttons will function.



- TV Type : When selecting the desired video signal format to match that of your TV monitor and DVD Video to be palyed.
- TV Display : When selecting a picture size according to the aspect ratio of your TV's screen.
- Angle Mark : When displaying the angle symbol on the TV screen during playback at the scene recorded from multiple camera angles.
- OSD Language : When selecting a preferred OSD(On-Screen Display) language to be displayed
- SPDIF Output : When outputting a preferred digital signal format or no digital signal.
- Captions : When turning on or off the display of the closed captions recorded on DVD Videos.
- Screen Saver : When turning on or off the screen saver function.
- Last Memory : When memorizing the point where an input source other than DVD is selected or the power is turned off during playback of DVD Video.

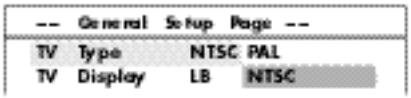
1 Press the CURSOR ▲/▼ buttons to select the preferred item.



• Then the setting menu of the selected item is displayed.

When selecting the TV Type

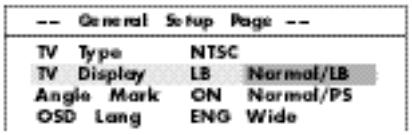
- Depending on the countries, this DVD player conforms to either the NTSC color system for U.S.A, Canada, etc., or the PAL for Europe, Australia, China, etc.
  If the color system of this DVD player is different from that of your TV monitor and the discs to be played, the screen may be somewhat hard to see or the picture quality may be poor.
  Only in this case, change the video signal format to another.
  (For details about the video signal format of your TV monitor or the discs, refer to the operating instruction of your TV or disc's jacket.)
- You can select the desired video signal format with pressing the PAL/NTSC button, too.
  (For details, refer to "CHANGING THE VIDEO SIGNAL FORMAT" on page 29.)



- PAL : When selecting the PAL format.
- NTSC : When selecting the NTSC format.

When selecting the TV Display

- When you connect a normal TV with 4:3 aspect ratio to the unit, select either "(Normal/)LB" or "(Normal/)PS" and when you connect a wide TV with 16:9 aspect ratio, select "Wide".

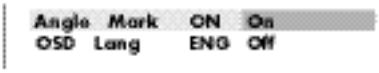


- Normal/LB(Letter Box): DVD Videos recorded with the 16:9 aspect ratio are reproduced in the letter box screen which has black bands on the top and bottom.
- Normal/PS(Pan-Scan): DVD Videos recorded with the 16:9 aspect ratio and the pan-scan specification are reproduced in the pan-scan screen which automatically trims the left and right of picture.
- Wide: DVD Videos recorded with the 16:9 screen are reproduced by filling the TV screen.

Note:

- Depending on some DVD Videos, the playback picture may not conform to the TV aspect setting you select.

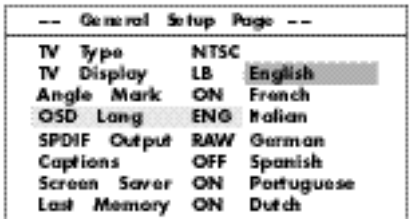
When selecting the Angle Mark



- ON : When turning on the display of the angle symbol( ) on the TV screen.
- OFF : When turning it off.

When selecting the OSD Language

• You can select the OSD(On-Screen Display) language to be displayed.



• You can select the desired of ENGLISH, FRENCH, ITALIAN, GERMAN, SPANISH, PORTUGUESE and DUTCH.

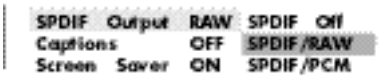
When selecting the SPDIF Output

Notes :

• This unit can output a preferred digital signal format or no digital signal to the OPTICAL DIGITAL OUT jack. Therefore, you should set the SPDIF Output to either OFF or corresponding setting(RAW or PCM) according to system connections, etc.

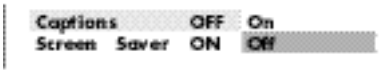
• When the OPTICAL DIGITAL OUT of the unit is connected to the DIGITAL IN of an amplifier which does not contain the DTS, Dolby Digital decoder, etc.(which processes the bitstream signal) or MD recorder, etc.
You should set the SPDIF Output to(SPDIF/) PCM to convert Dolby Digital or DTS bitstream, etc. to linear PCM(2 channel) of 48 kHz/16bit and to output it.

• If the SPDIF Output is not set correctly, loud noise or no sound may be heard from the speakers, and it may be harmful to your ears and damage the speakers.



• SPDIF OFF : When outputting no digital signal.
• SPDIF/RAW : When outputting the digital audio signal as it was recorded.
• SPDIF/PCM : When converting DTS, Dolby Digital bitstream, etc. to linear PCM(2 channel) of 48 kHz/16 bit and outputting it.

When selecting the Captions



• ON : When turning on the display of the closed captions recorded on DVD Videos.
• OFF : When turning it off.

Notes :

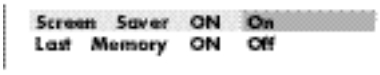
• The caption decoder is required to display captions.
• DVD Videos with caption signals are indicated by the , , mark.
The captions cannot be displayed when playing DVD Videos which do not contain caption signals.

When selecting the Screen Saver

• A TV screen may be burned out if a static picture is displayed for a long time in the stop mode or the pause mode, etc.. To prevent this, set the Screen Saver to ON. Then the unit automatically activates the screen saver function if a static picture is displayed for over 5 minutes.

Note :

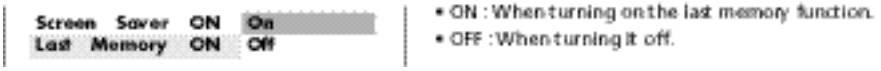
• The monitor screen of a projector or projection TV is easily burned out if a static picture is displayed for a long time. Be careful not to allow the monitor screen to be burned out when the Screen Saver is set to OFF.



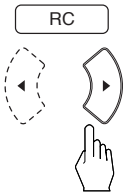
• ON : When turning on the screen saver function.
• OFF : When turning it off.

When selecting the Last Memory

• If the Last Memory is set to ON, the unit can memorize the point where an input source other than DVD is selected or the power is turned off during playback of DVD Video.
When DVD is selected as an input source again or the power is turned on, playback will resume from that point.

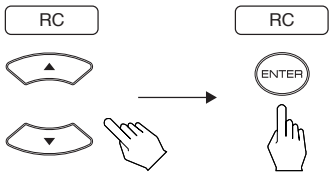


2 Press the CURSOR ▶ button to select the setting menu.



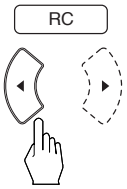
• Each time the CURSOR ▶ or ◀ button is pressed, the setting menu or the item menu is selected.

3 Press the CURSOR ▲/▼ buttons to select the preferred setting, then press the ENTER button.

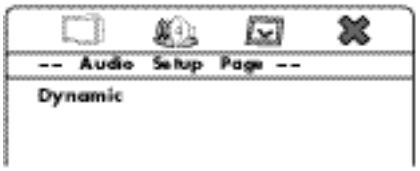


• The selected setting is colored.

4 Press the CURSOR ◀ button to select the item menu.

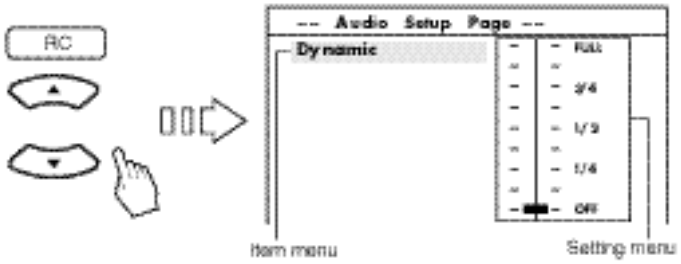


5 Set other setups to your preference.



• Dynamic Range Compression : When adjusting the dynamic range compression that makes faint sound easier to hear at low volume levels.

1 Press the CURSOR ▲/▼ buttons to select the Dynamic Range Compression.

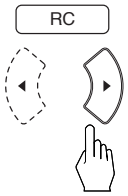


• FULL~1/8 : When adjusting the dynamic range compression as desired.
• OFF : When turning off the dynamic range compression.

Note: In some Dolby Digital softwares, this function cannot be available.

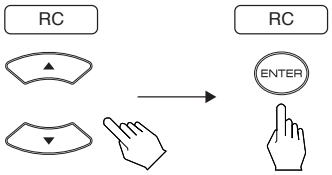
• This function can be activated while playing the Dolby Digital program sources only.

2 Press the CURSOR ▶ button to select the setting menu.



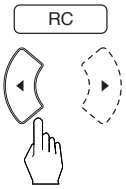
• Each time the CURSOR ▶ or ◀ button is pressed, the setting menu or the item menu is selected.

3 Press the CURSOR ▲/▼ buttons to select the preferred setting, then press the ENTER button.



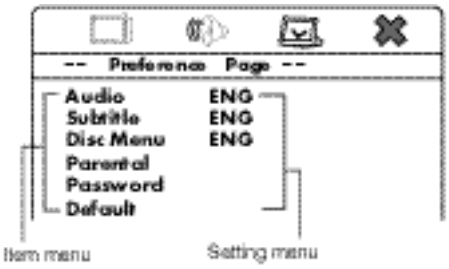
• The selected setting is colored.

4 Press the CURSOR ◀ button to select the item menu.



5 Set other setups to your preference.

ENGLISH



- Audio : When selecting a preferred audio language to be heard from those included on the DVD Video.
- Subtitle : When selecting a preferred subtitle language to be displayed from those included on the DVD Video.
- Disc Menu : When selecting a preferred menu language to be displayed from those included on the DVD Video.
- Parental Control : When restricting playback of DVD Video which contains violent and other scenes according to the level set by the user. For example, If a movie which includes violent scenes supports the parental lock feature, such scenes which you do not want to let children view can cut or replaced with other scenes.
- Password : When changing the password. The unit's password has been set to "3308" at the factory.
- Default : When resetting the settings made in the setup menu except the rating level and the password to the initial settings at the factory.

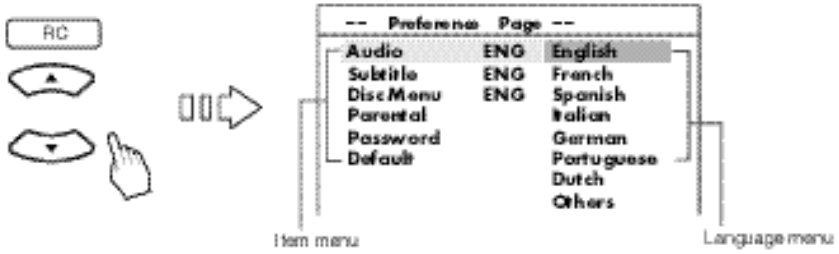
When selecting the Audio, Subtitle or Disc Menu

Note :

• If the selected language is not recorded in the DVD Video, one of the recorded languages is automatically selected.

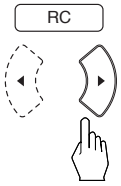
1 Press the CURSOR ▲/▼ buttons to select the preferred item.

Example) When selecting the Audio



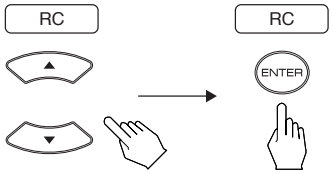
• Then the language menu of the selected item is displayed.

2 Press the CURSOR ▶ button to select the language menu.



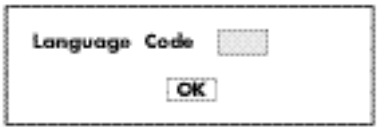
• Each time the CURSOR ▶ or ◀ button is pressed, the language menu or the item menu is selected.

3 Press the CURSOR ▲/▼ buttons to select the preferred language, then press the ENTER button.



• The selected language is colored.
• You can select one of languages listed in the language menu.
• When you want to select a language other than languages listed in the language menu, select “Others”.

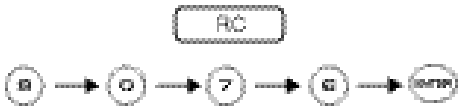
■**When selecting "Others"**



• Then 4-digit language code input screen is displayed.

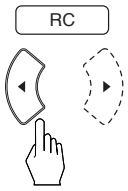
• Refer to "DVD Language Code List" on page 52 to find the 4-digit language code for the preferred language and input it with pressing the NUMERIC buttons, then press the ENTER button.

Example) When inputting "8076"



• When the 4-digit code is input correctly, the previous menu screen is displayed.
• When a wrong code which is not listed in DVD Language Code List is input, press the ENTER button to return to the previous menu, then perform the step 3 again.

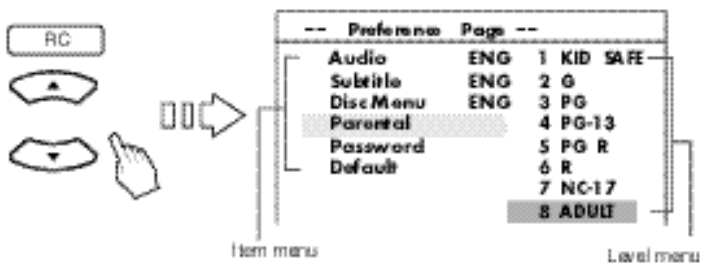
4 Press the CURSOR ◄ button to select the item menu.



5 Set other setups to your preference.

When selecting the Parental Control

1 Press the CURSOR ▲/▼ buttons to select the Parental Control.

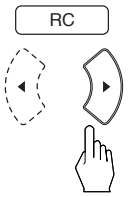


• LEVEL 1(KID SAFE) :
Select this to play only DVD Videos for children. Adult and general audience DVD Videos cannot be played.
• LEVEL 2~7(G~NC-17) :
Select this to play DVD Videos for general audiences and children. Adult DVD Videos cannot be played.
• LEVEL 8(ADULT) :
Select this to play All DVD Videos for general audiences, children and adults.

Notes :
• When you set the rating level low, some discs may not be played at all. In this case, set the rating level higher or to "8 ADULT".
• DVD Videos may or may not respond to the rating level setting. Make sure this function works with your DVD Videos.

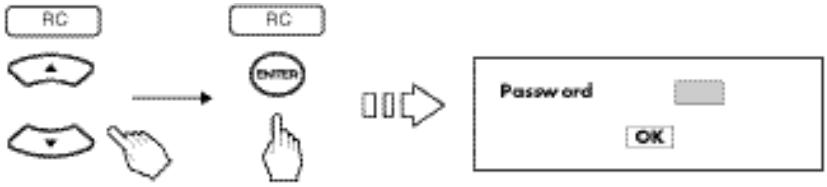
Continued

2 Press the CURSOR ▶ button to select the level menu.

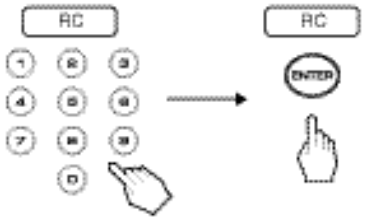


• Each time the CURSOR ▶ or ◀ button is pressed, the level menu or the item menu is selected.

3 Press the CURSOR ▲/▼ buttons to select the preferred level, then press the ENTER button.



4 Input a 4-digit password with pressing the NUMERIC buttons, then press the ENTER button.

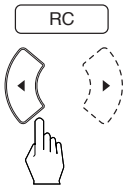


• When the password is input correctly, the rating level is set to the preferred level and the previous menu screen is displayed.
• If you input a wrong password, it will not return to the previous menu. In this case, input the password again.
• While displaying the password input screen, when the SETUP button is pressed, the setup mode is canceled.

Note :

• If you forgot your password, input “3308” that has been set to at factory.
• To play back a DVD that supports the parental lock feature, you should enter the password.

5 Press the CURSOR ◀ button to select the item menu.

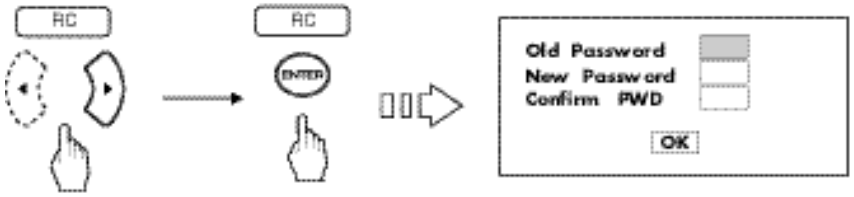


6 Set other setups to your preference.

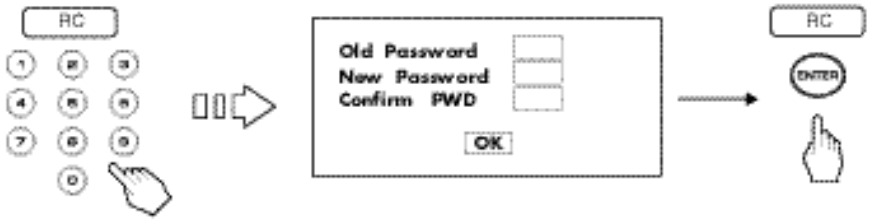
When selecting the Password

1 Press the CURSOR ▲/▼ buttons to select the Password.

2 Press the CURSOR ▶ buttons to select the Change, then press the ENTER button.



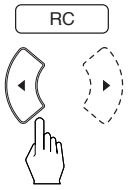
3 Input 4-digit passwords in sequence for old password, new password and confirmation, then press the ENTER button.



• When each password is input correctly, new password is memorized and the previous menu screen is displayed.
• If you input a wrong password, you cannot change the password to the desired. In this case, input the password again.

Note :
• Do not forget the password.
If you forgot your password, input “3308” that has been set to at factory.

4 Press the CURSOR ◀ button to select the item menu.



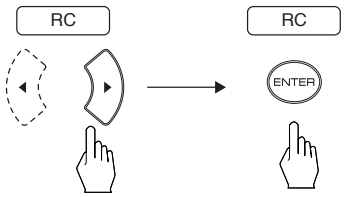
5 Set other setups to your preference.

When selecting the Default

1 Press the CURSOR ▲/▼ buttons to select the Default.

RC
Password
Default
Reset
• RESET: When resetting the settings made in the setup menu except the rating level and the password to the initial settings at the factory.

2 Press the CURSOR ▶ button to select the setting menu, then press the ENTER button.



- Each time the CURSOR ▶ or ◀ button is pressed, the setting menu or the item menu is selected.
- Then the settings are reset to initial settings and the setup mode is canceled.

3 Set other setups to your preference.

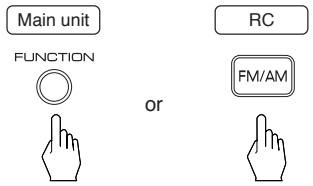
Operation of Tuner

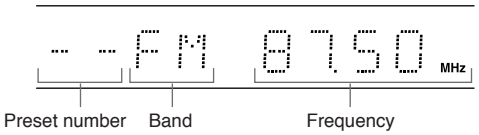
ENGLISH

LISTENING TO RADIO BROADCASTS

Auto tuning

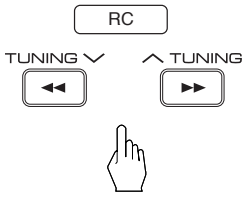
1 Select the desired band.





• Press the button repeatedly to select FM or AM band.

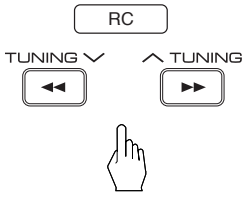
2 Press the TUNING UP(∧) or DOWN(∨) button for more than 0.5 second.



• Then “AUTO” in indicator lights up on the display.
• The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and “TUNED”.
• If the station found is not the desired one, simply repeat this operation.
• Weak stations are skipped during auto tuning.

Manual tuning

• Manual tuning is useful when you already know the frequency of the desired station.
• After selecting the desired band with pressing the “FM/AM” button or “FUNCTION” button, press the TUNING UP(∧) or DOWN(∨) button repeatedly until the right frequency has been reached.



Presetting radio stations

• You can store up to 30 preferred stations in the memory.

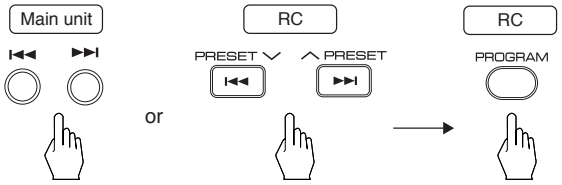
1 Tune in the desired station with auto or manual tuning.

2 Press the PROGRAM button.

• Then the preset number (“01”,etc.) is flickering for several seconds.
• If flickering the preset number stops, press the PROGRAM button again.

Continued

3 Select the desired preset number(1~30) and press the PROGRAM button.



• When using the NUMERIC buttons on the remote control.

Examples)

For “3” : 3

For “21” : +10 → within 2 seonds → +10 → within 2 seonds → 1

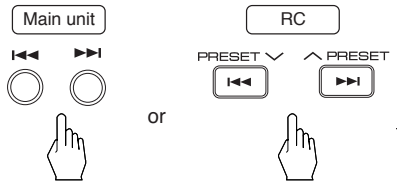
For “30” : +10 → within 2 seonds → +10 → within 2 seonds → +10

• The stations has now been stored in the memory.
• When using the NUMERIC buttons, the station is stored automatically without pressing the PROGRAM button.
• A stored frequency is erased from the memory by storing another frequency in its place.

4 Repeat the above steps 1 to 3 to memorize other stations.

Tuning to preset stations

• After selecting the tuner with pressing the “FM/AM” button or “FUNCTION” button, select the desired preset number.



• When using the NUMERIC buttons on the remote control.

Examples)

For “3” : 3

For “21” : +10 → within 2 seonds → +10 → within 2 seonds → 1

For “30” : +10 → within 2 seonds → +10 → within 2 seonds → +10

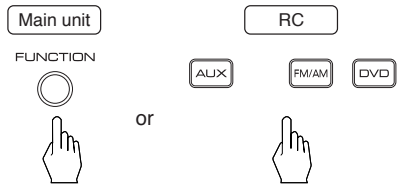
Operation of Other Functions

ENGLISH

RECORDING WITH TAPE DECK

- The volume, tone(bass, treble) settings, etc. have no effect on the recording signals.
- While playing a disc in a Dolby Virtual Speaker or Dolby Headphone mode, the selected mode has effect on the recording signals.

1 Select the desired input as recording source except TAPE.



2 Start recording on the component connected to TAPE.

3 Start play on the desired input.

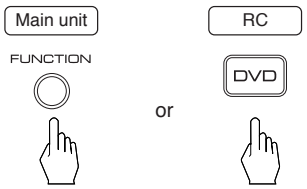
DIGITAL AUDIO RECORDING WITH MD RECORDER

- When the OPTICAL DIGITAL OUT of the unit is connected to the DIGITAL IN of an MD recorder or CD recorder, you can enjoy high-quality sound of digital recording.(Refer to “CONNECTING AUDIO/VIDEO COMPONENTs” and “CONNECTING DIGITAL OUT” on page 6 and the operating instructions of the MD recorder or CD recorder.)

Notes :

- Digital recording is available for the digital audio program sources such as CDs, MP3 discs, some DVDs, etc.
- In most DVDs as well as some CDs recorded in bitstream signal format, digital recording may not be available. In this case, you should set the SPDIF Output to (SPDIF/)PCM.(Refer to “When selecting the SPDIF Output” on page 32.)
- There are some restrictions on recording digital signals. When making digital recordings, refer to the operating instructions of your digital recording equipment to know what restrictions are imposed.

1 Select DVD as recording source.



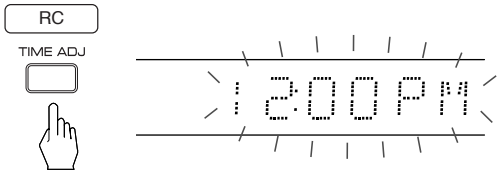
2 Start recording on the component connected to OPTICAL DIGITAL OUT.

3 Start play on DVD player of the unit.

SETTING THE CLOCK

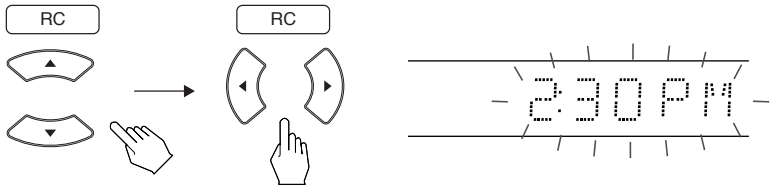
1 Press the TIME ADJUST button.

Example) When setting to 2:20 PM



- Each time this button is pressed, the time or the current operation status is displayed.
- When the time has not been set yet, or the time is cleared due to the electricity failure, etc. the time display flickers.

2 Press the CURSOR ▲/▼ buttons to set the hour and press the CURSOR ◀/▶ buttons to set the minute.



3 Press the ENTER button to memorize.

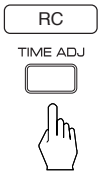
- To display the current operation status, press the TIME ADJUST button again.

Note :

- If the electricity fails or the AC input cord is unplugged, the current time may be cleared. Should this happen, set the clock again.

When checking the time while displaying operation status

- Press the TIME ADJUST button.



- Each time this button is pressed, the time or the current operation status is displayed.

OPERATING THE SLEEP TIMER

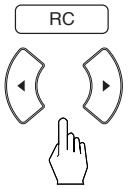
• The sleep timer allows the unit to continue to operate for a specified period of time before automatically shutting off.
• While displaying the time, you cannot operate the sleep timer.

ENGLISH

1 Press the SLEEP/TIMER button.

• Then “SLP OFF” is displayed for several seconds.

2 Press the CURSOR ◀/▶ button to select the desired sleep time.



• Each time the CURSOR ◀ or ▶ button is pressed, the sleep time changes and disappear in several seconds as follows:
OFF ↔ 10 ↔ 20 ↔ 30 ↔ 60 ↔ 90

• While operating the sleep timer, “ ★☽ ” lights up.
• When the sleep time is selected, the display of the unit is dimly lit.

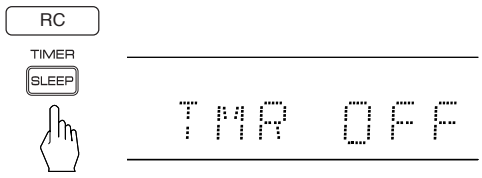
OPERATING THE TIMER

• Once the timer is set to ON, it will operate at the preset time every day.
• While displaying the time, you cannot operate the timer.

■Before setting the timer

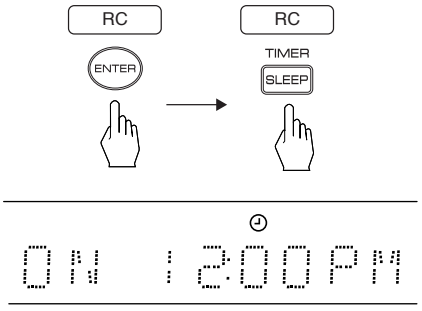
• Make sure the clock has been set correctly. If not, when the SLEEP/TIMER button is pressed for more than 2 seconds, “TIME ADJust” message flickers for several seconds.
In this case, first set the clock performing “SETTING THE CLOCK” procedure on page 44.

1 Press the SLEEP/TIMER button for more than 2 seconds to enter the timer setting mode.



• “TMR OFF”(or “TMR ON”)is displayed.
• To cancel the timer setting mode, press this button for more than 2 seconds again.

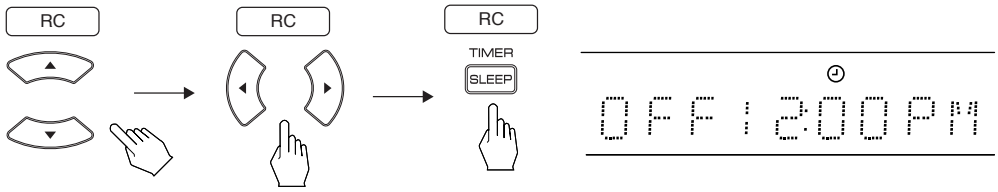
2 Select the timer on mode and press the SLEEP/TIMER button.



• Then it enters the on time setting mode.
• Each time the ENTER button is pressed, the timer mode changes as follows :
“TMR ON” : Timer on mode(“ ◷ ” lights up.)
↕
“TMR OFF” : Timer off mode(“ ◷ ” goes off.)

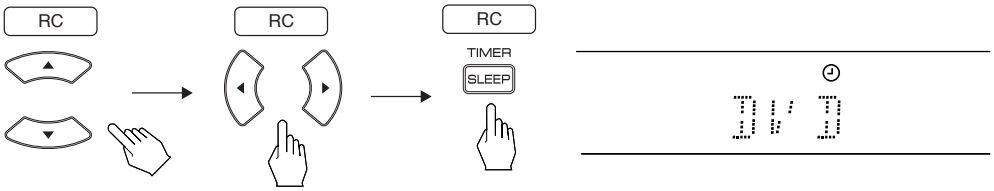
Continued

3 Press the CURSOR ▲/▼ buttons to set the hour for on time, press the CURSOR ◀/▶ buttons to set the minute and press the SLEEP/TIMER button.



• Then is enters the off time setting mode.

4 Press the CURSOR ▲/▼ buttons to set the hour for off time, press the CURSOR ◀/▶ buttons to set the minute and press the SLEEP/TIMER button.

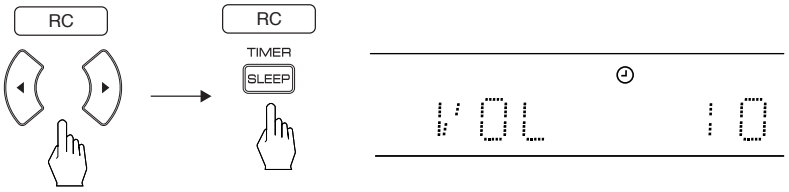


• Then it enters the input setting mode.

Note :

• If the on time and the off time are the same, when the SLEEP/TIMER button is pressed, “ERROR” is displayed. In this case, perform the above steps 3 and 4 to set the time correctly.

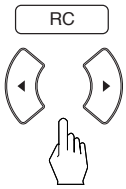
5 Press the CURSOR ◀/▶ buttons to select the desired input source and press the SLEEP/TIMER button.



• Then it enters the volume setting mode.

• Each time CURSOR ◀ or ▶ buttons is pressed, the input source changes as follows : → DVD ↔ FM ↔ AM ←

6 Press the CURSOR ◀/▶ buttons to adjust volume level as desired.



7 Press the SLEEP/ TIMER button for more than 2 seconds to memorize.

• Then the timer settings are memorized and it returns to the previous status.

8

According to the selected input source, make preparations for timer play.

■When selecting “DVD”

1. Load a CD or DVD Video
2. In case of DVD Video, set the Last Memory to ON.(Refer to “When selecting the Last Memory” on page 33.)
3. Play back a DVD Video.

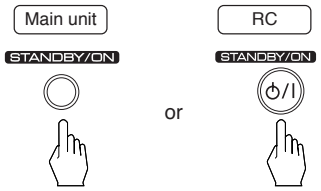
Notes :
- In case of most DVD videos that have menu structures, you should perform the above steps 2 and 3.
- Timer function cannot play back MP3 discs.
- To play back a DVD Video, set the timer of your TV as desired, too.

■When selecting “FM” or “AM”

- Tune in the desired station
- If you do not specify the station, the station you listened to last will be tuned in.

9

Turn the power off.



- To operate the timer, you should turn the power off before the preset time.
- At the preset time, the power is turned on and the timer function is performed automatically.
- In case of DVD Video, turn the power off while playing back the desired scene.

When canceling the TIMER

1 Press the SLEEP/TIMER button for more than 2 seconds to enter the timer setting mode.

- "TMR ON"(or "TMR OFF") is displayed.
- To cancel the timer setting mode, press this button for more than 2 seconds again.

2 Select the timer off mode.

- Each time the ENTER button is pressed, the timer mode changes as follows :

"TMR ON" : Timer on mode(" ◴ " lights up.)
↕
"TMR OFF" : Timer off mode(" ◴ " goes off.)

3 To confirm your selection, press the SLEEP/ TIMER button for more than 2 seconds.

- Then the timer is deactivated.

ADJUSTING THE BRIGHTNESS OF THE DISPLAY

- Each time the DIMMER button is pressed, the brightness of the display changes as follows :

→On →dim →off

- In the display off mode, pressing any button will restore the display on mode.

Troubleshooting Guide

If a fault occurs, run through the table below before taking your system for repair.
If the fault persists, attempt to solve it by switching the unit off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you attempt to repair the unit yourself. This could void the warranty.

■REMOTE CONTROL UNIT

PROBLEM	POSSIBLE CAUSE	REMEDY
No operation	• Batteries are not loaded or exhausted. • The remote sensor is obstructed.	• Replace the batteries. • Remove the obstacle.

■MAIN UNIT(VR-670)
[AMPLIFIER SECTION]

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	• The AC input cord is disconnected. • Poor connection at AC wall outlet or the outlet is inactive.	• Connect the cord securely. • Check the outlet using a lamp or another appliance.
No sound	• The speaker cords are disconnected. • The volume is adjusted too low. • The MUTING button on the remote control is pressed to ON. • Incorrect selection of the input source. • Incorrect connections between the components.	• Check the speaker connections. • Adjust the volume. • Press the MUTING button to cancel the muting effect. • Select the desired input source correctly. • Make connections correctly.
Noise or distorted sound	• Poor connections.	• Check the connections and connect all cords securely.

[DVD PLAYER SECTION]

PROBLEM	POSSIBLE CAUSE	REMEDY
No playback	• The disc is loaded upside down. • The disc is not playable. • The disc is dirty. • The rating level is not set correctly. • The symbol about invalid operation is displayed.	• Reload the disc with the printed side up. • Use a playable disc. • Clean the disc. • Set the rating level setting correctly.(Refer to "When selecting the Parental Control" on page 36.) • Adjust the setting correctly.(Refer to "SYMBOL ABOUT INVALID OPERATION" on page 15.)
Malfunction	• The disc is scratched or dirty badly.	• Unplug the AC input cord, then plug it again.
No picture	• The video cords are disconnected. • The incorrect selection of input source on the TV. • The disc is not playable.	• Connect the cords correctly. • Select the input source correctly. • Use a playable disc.
Noisy or distorted picture	• The unit is connected to a VCR directly and the copyguard function is activated. • The disc is dirty. • It is in rapid advance or reverse playback, or in frame advance playback.	• Connect the unit so that the picture signal is transferred directly to the TV. • Clean the disc. • Sometimes a small amount of picture distortion may appear. This is not malfunction.
Abnormal or no picture	• The component video output signal is not selected correctly.	• Select the component video output signal correctly. (Refer to "CHANGING THE COMPONENT VIDEO OUTPUT SIGNAL" on page 29.)
Slight pause of picture	• The layer transition occurs during playback of DVD Videos recorded in dual-layer format.	• Sometimes slight pause may occur. This is not malfunction.
Noise or distorted sound	• The disc is dirty.	• Clean the disc

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[TUNER SECTION]

PROBLEM	POSSIBLE CAUSE	REMEDY
Stations cannot be received	• No antenna is connected. • The desired station frequency is not tuned in. • The antenna is in wrong position.	• Connect an antenna. • Tune in the desired station frequency. • Move the antenna and retry tuning.
Preset stations cannot be received	• An incorrect station frequency has been memorized. • The memorized stations are cleared.	• Memorize the correct station frequency. • Memorize the stations again.
Poor FM reception	• No antenna is connected. • The antenna is not positioned for the best reception.	• Connect an antenna. • Change the position of the antenna.

■SPEAKER SYSTEM
[FRONT SPEAKER(ST-670)

PROBLEM	POSSIBLE CAUSE	REMEDY
No sound	• The speaker cords are disconnected.	• Check the speaker connections.
Sound level is too low	• The speaker cords are not connected correctly.	• Connect them correctly according to the channel (left and right) and the polarity (+ and -).

[ACTIVE SUBWOOFER(ASW-670)]

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	• The AC input cord is disconnected • Poor connection at AC wall outlet or the outlet is inactive.	• Connect the cord securely. • Check the outlet using a lamp or another appliance.
No sound even though the POWER switch is set to the ON position.	• The SIGNAL switch is set to the OFF position. • The VOLUME knob is set to the MIN position. • The connection cord is not connected correctly.	• Set the SIGNAL switch to the AUTO or ON position. • Turn the VOLUME knob clockwise. • Connect it securely.
Sound level is too low.	• The volume is adjusted too low. • A source sound with few bass frequencies is played. • The CROSSOVER FREQUENCY knob set to the 50Hz position.	• Turn the VOLUME knob clockwise. • Play a source sound with bass frequencies. • Turn the CROSSOVER FREQUENCY knob clockwise.

Specifications

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■MAIN UNIT(VR-670)

[AMPLIFIER SECTION]

- Power output, stereo mode, 6 Ω, THD 0.5 %, 20 Hz~20 kHz **l 2 ×25 W**
- Total harmonic distortion, 6 Ω, 25 W, 1 kHz **l 0.09 %**
- Intermodulation distortion
  60 Hz : 7 kHz=4:1 SMPTE, 6 Ω, 25 W **l 0.05 %**
- Signal to noise ratio, IHF "A" weighted, Line (AUX, TAPE) **l 90 dB**
- Frequency response
  Line(AUX, TYPE), 20 Hz~60 kHz **l ±3 dB**
- Output level
  TAPE REC, 2.2 kΩ **l 180 mV**
- Bass/Treble control, 100 Hz/10 kHz **l ±10 dB**
- Optical digital output level, 660 nm **l -15~-21 dBm**

[VIDEO SECTION]

- Output level, 75Ω
  Video (Composite(normal)) **l 1 Vp-p**
  S-Video (Luminance signal) **l 1 Vp-p**
  (Chrominance signal) **l 0.286 Vp-p**
  Component video (C_R signal) **l 0.7 Vp-p**
  (C_B signal) **l 0.7 Vp-p**
  (Y signal) **l 1 Vp-p**

[DVD PLAYER SECTION]

- Pickup **l Semiconductor laser, wavelength 650/780 nm**
- D/A conversion **l 24 bit**
- Oversampling
  Sampling frequency : 44.1, 48 kHz/96 kHz **l 8 fs, 8 fs/4 fs**
- Video format **l NTSC/PAL**
- Frequency response
  Sampling frequency : 44.1 kHz **l 10 Hz~20 kHz**
  Sampling frequency : 48 kHz **l 10 Hz~22 kHz**
  Sampling frequency : 96 kHz **l 10 Hz~44 kHz**
- Signal to noise ratio, A weighted
  CD **l 95 dB**
- Dynamic range
  16/20/24 bit **l Move than 99/108/108 dB**
- Total harmonic distortion, 1 kHz
  CD **l Less than 0.03 %**
- Wow and flutter **l Unmeasurable(less than ±0.002 %)**

[FM TUNER SECTION]

- Tuning frequency range **l 87.5~108 MHz**
- Usable sensitivity, THD 3 %, S/N 30 dB **l 17.2 dBf**
- Signal to noise ratio, 65 dBf, mono/stereo **l 55/45 dB**
- Total harmonic distortion, 65 dBf, 1 kHz, mono/stereo **l 0.5/0.8 %**
- Frequency response, 30 Hz~15 kHz **l ±3 dB**

[AM TUNER SECTION]

- Tuning frequency range **l 520~1710 kHz**
- Usable sensitivity **l 500 μV/m**
- Signal to noise ratio **l 40 dB**
- Selectivity **l 25 dB**

[GENERAL]

- Power supply **l 120 V~60 Hz**
- Power consumption **l 95 W**
- Dimensions(W ×H ×D) **l 360 ×102 ×275 mm(17-1/8 ×4 ×10-7/8 inches)**
- Weight(Net) **l 5.4 kg(11.9 lbs)**

■SPEAKER SYSTEM

[FRONT SPEAKER(ST-670)]

- Type **l 2 way 2 speaker system(magnetic shielding, closed type)**
- Unit **l 3 inch woofer ×1, 1inch soft dome tweeter ×1**
- Frequency response **l 140 Hz~20 kHz**
- Power handling **l 25~30 W**
- Impedance **l 6 Ω**
- Sound pressure level **l 82 dB/W/M**
- Dimensions(W ×H ×D) **l 110 ×220 ×100 mm(4-1/4 ×8-5/8 ×4 inches)**
- Weight(Net.)/unit **l 0.94 kg(2.1 lbs)**

[ACTIVE SUBWOOER(ASW-670)]

- Type **l Bass reflex system(magnetic shielding type)**
- Unit **l 6 inch woofer ×1**
- Frequency response **l 50 Hz~150 Hz**
- Amplifier output **l 50 W / 4 Ω**
- Power supply **l 120 V~60 Hz**
- Power consumption **l 50 W**
- Dimensions(W ×H ×D) **l 200 ×300 ×305 mm(7-7/8 ×11-7/8 ×12 inches)**
- Weight(Net) **l 7.1 kg(15.7 lbs)**

Note: Design and specifications are subject to change without notice for improvements.

DVD Language Code List

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Code	Language	Code	Language	Code	Language	Code	Language
6566	Abchazian	7176	Galician	7773	Maori	8476	Tagalog
6565	Afar	6869	German	7782	Marathi	8471	Tajik
6570	Afrikaans	7565	Georgian	7779	Moldavian	8465	Tamil
8381	Albanian	6976	Greek	7778	Mongolian	8484	Tatar
6577	Amharic	7576	Greenlandic			8469	Telugu
6582	Arabic	7178	Guarani	7865	Nauru	8472	Thai
7289	Armenian	7185	Gujarati	7869	Nepali	6679	Tibetan
6583	Assamese			7879	Norwegian	8473	Tigrinya
6583	Aymara	7265	Hausa			8479	Tonga
6590	Azerbaijani	7387	Hebrew	7982	Oriya	8482	Turkish
		7273	Hindi			8475	Turkmen
6665	Bashkir	7285	Hungarian	8083	Pashto, Pushto	8487	Twi
6985	Basque			7065	Persian		
6678	Bengali, Bangla	7383	Icelandic	8076	Polish	8575	Ukrainian
6890	Bhutani	7378	Indonesian	8084	Portuguese	8582	Urdu
6672	Bihari	7365	Interlingua	8065	Punjabi	8590	Uzbek
6682	Breton	7165	Irish				
6671	Bulgarian	7384	Italian	8185	Quechua	8673	Vietnamese
7789	Burmese					8679	Volapuk
6669	Byelorussian	7465	Japanese	8277	Rhaeto-Romance		
		7487	Javanese	8279	Romanian	6789	Welsh
7577	Cambodian			8285	Russian	8779	Wolof
6765	Catalan	7578	Kannada				
9072	Chinese	7583	Kashmiri	8377	Samoan	8872	Xhosa
7282	Croatian	7575	Kazakh	8365	Sanskrit		
6779	Corsican	7589	Kirghiz	7168	Scots Gaelic	7473	Yiddish
6783	Czech	7579	Korean			8979	Yoruba
		7585	Kurdish	8382	Serbian		
6865	Danish			8372	Serbo-Croatian	9085	Zulu
7876	Dutch	7679	Laothian	8378	Shona		
		7665	Latin	8388	Sindhi		
6978	English	7686	Latvian, Lettish	8373	Singhalese		
6979	Esperanto	7678	Lingala	8375	Slovak		
6984	Estonian	7684	Lithuanian	8376	Slovenian		
				8379	Somali		
7079	Faroese	7775	Macedonian	6983	Spanish		
7074	Fiji	7771	Malagasy	8385	Sidanese		
7073	Finnish	7783	Malay	8387	Swahili		
7082	French	7776	Malayalam	8386	Swedish		
7089	Frisian	7784	Maltese				